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(CONSOLIDATED.)

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ORIGINAL ARTICLES.

ARTICLE I.—METHODS OF INFLATING THE MIDDLE EAR. By THOS. F. RUMBOLD, M.D., of St. Louis, Professor of Diseases of the Nose, Throat and Ear, in the College for Medical Practitioners, St. Louis. Mo., and Editor of the *St. Louis Medical and Surgical Journal.* (Illustrated.)

Forcing air through the Eustachian tube into the tympanum is a means frequently resorted to for both the examination of the ear and the treatment of catarrh of the Eustachian tube, also for the purpose of preventing or correcting a partially ankylosed condition of the ossicula auris, and for detaching synechia of the membrane to the promontory.

There are several methods of inflation, but no one of them is adapted for all varieties of cases. It is taken for granted, at once, that the method which will accomplish the inflation and produce the least irritation to the mucous membrane of the part operated upon is the one to be preferred. To be enabled to make a selection of the method suited to a particular case necessitates an analysis of all of them, namely: Valsalva's method; Eustachian catheterization; Politzer's method; and Gruber's modification of the last named.

THE VALSALVIAN METHOD.

This method of inflation should not be employed as a rule. It is performed by the patient closing his nostrils with his thumb and finger, and forcing air from his lungs into the pharyngo-nasal cavity, and through the Eustachian tubes into the middle ears. This method, if frequently practised, is liable to aggravate the congestion of the mucous membrane. I have treated several patients who claimed that their tinnitus was caused by the continued employment of this means of inflation.

EUSTACHIAN CATHETERIZATION.

The popularity of the Eustachian catheter has varied, according to the good or negative results following its use, by those who have employed it. If the author of a work on the ear has been dextrous in its application (while it was a popular method, every one claimed to use it with facility and success), he will pronounce it an instrument that fills indications that cannot be filled by any other means. If the aurist is a young man, he will *know* how to use it, and will attempt to do so because he must appear to the general practitioners in his neighborhood to be perfectly familiar with it. However this may be, it is true that the majority of aurists of experience reserve this very irritating instrument for those cases only in which other pleasanter means for inflation have failed.

The cavities into which the extremity of the catheter is introduced are the nasal and pharyngo-nasal and the mouth of the Eustachian tube. These cavities are traversed by a larger number of important nerves than any other part of the organism of the same extent. The mucous membrane here takes on a tumefied condition from apparently slight causes, because of the existence of long-continued catarrhal inflammation that always precedes and accompanies the disease of the ear. The tumefaction of the mouth of the Eustachian tube will have an injurious effect upon the hearing, as it always decreases the calibre of the tube, thus preventing the slow and continual ingress of air to the middle ear, which is essential to good hearing.

Can it be expected that a favorable result will follow the introduction of the Eustachian catheter, when it is thrust so roughly against the sensitive mucous membrane that its extremity, by frequent propulsion and retraction (in the endeavor to place the end of the instrument within the mouth of the tube) abrades, and in some instances penetrates, the membrane; or, when air is so forcibly introduced that an emphysema of the part results; or, when it is pushed through a nasal passage so narrow and irregular as to cause an abrasion of sufficient severity to produce hæmorrhage; or, when its introduction will cause an irritation or swelling of the nasal mucous membrane sufficient to give rise to a copious flow of tears; or, when its extremity is thrust into a mass of muco-purulent secretion, lodged in the pharyngo-nasal cavity, in the neighborhood of the Eustachian tube? Is it possible to make a favorable introduction under any of these circumstances? To receive the smallest benefit, its introduction must *always* be a painless operation.

In my practice I have resticted the employment of the catheter to patients suffering from cleft palate, or from its perforation, or those who are afflicted with a paresis of the velum, and to those very old chronic cases who require a warm spray to be thrown directly into the Eustachian canal.

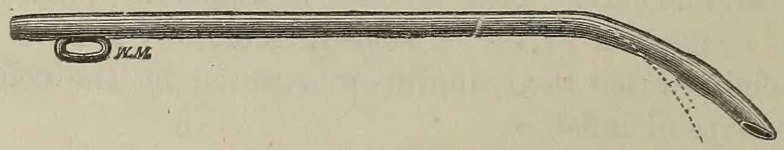

FIG. 1.—Soft rubber Eustachian catheter. The curved extremity is formed of soft rubber tubing.

Since 1871 I have used a Eustachian catheter, the curved extremity of which is flexible (Fig. 1). By its use the liability to injure the mucous membrane of the nose, or mouth of the Eustachian tube, is reduced to a minimum. It consists of a metal tube, the diameter of an ordinary catheter. At one extremity is fastened a ring to indicate the position of the curved extremity, at the other a piece of watch-spring, bent to the proper curve, is fastened. At the further end of this is soldered a small ring. Over the tube, curved watch spring and small ring is drawn a piece of soft, smooth rubber tubing. This covers the whole instrument, makes it a non-conductor of heat, and prevents the yielding, curved extremity from injuring the nasal passage in its introduction. The yielding or spring portion of the catheter is easily bent in any desired position. Besides being almost painless in its introduction, the rubber extremity prevents abrasion of the mouth of the Eustachian tube.

It has been my custom to direct the patient to hold the outer extremity of the catheter, after it is once introduced into the mouth of the tube. I do this that undue pressure of the catheter against the tube may be avoided, and to prevent the mucous membrane from closing the orifice of the catheter. I direct him to move it slightly from place to place, in order to find a position which allows the air to enter most freely into his middle ear, of which he is by far the best judge. At the first few treatments, the patient may not hold the instrument in the right position, perhaps, but it is very much better to fail in inflating the ear at the first trial than to bruise the mouth of the Eustachian tube once. Yet in most instances the tympanum may be inflated at the first sitting.

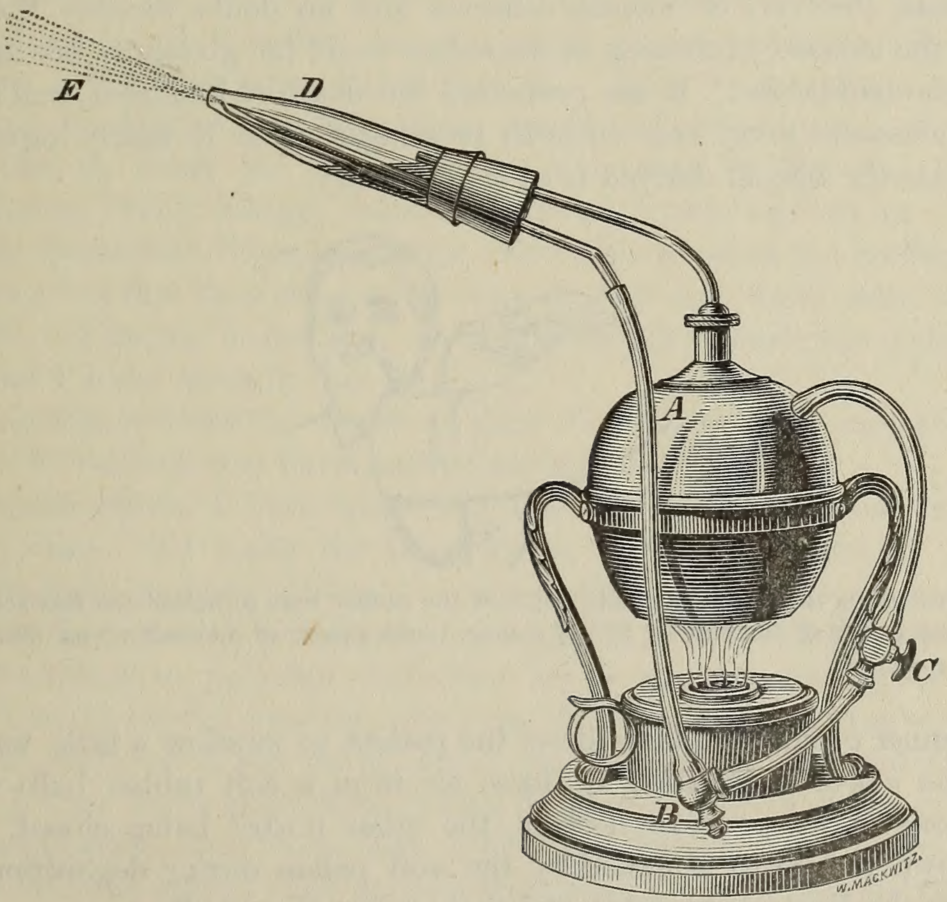

FIG. 2.—Warm spray producer for treating the anterior nasal cavities and inflating the Eustachian tubes *A*, boiler; *B*, soft rubber tubing connected with the boiler and spray producer. *C*, Faucet for controlling the amount of air that is to enter the boiler; *D*, large tube that contains the medicine to be made into spray; *E*, the spray.

I have another slight modification of the method of forcing the air through the catheter which I think of sufficient importance to mention. While the patient is holding the catheter in the proper position, I apply to its extremity the soft rubber tube that is connected with my warm spray producer (Fig. 2), and allow the air and spray to pass into the catheter, but without touching it. Certainly, much of the air thus thrown into the catheter comes back, but I use sufficient pressure to cause full inflation of the middle ear. By so doing the inflation can be accomplished with the least possible injury to the mouth of the Eustachian tube.

I always spray the nasal and pharyngo-nasal cavities before inflating the middle ear, that the mucous membrane may be thoroughly cleansed, thus preventing the possibility of blowing secretion into the Eustachian tube or tympanum in the act of inflation. I use this warm spray producer, principally on children, without the Eustachian catheter, simply inserting it into one nostril while the patient closes the other nasal opening and repeats the word "what," and holding on to the "t," which prolongs the compressing effect of the operation. In this way warm air and spray of vaseline are forced into the Eustachian tube.

POLITZER'S METHOD OF INFLATION.

Dr. Adam Politzer, of Vienna, deserves and no doubt receives the sincere thanks of the medical profession of the entire world for giving us his method of inflating the middle ear. It has prevented the death of hundreds, and the deafness of thousands, every year since its promulgation. It is nearly impossible to overestimate the benefit derived from its discovery.

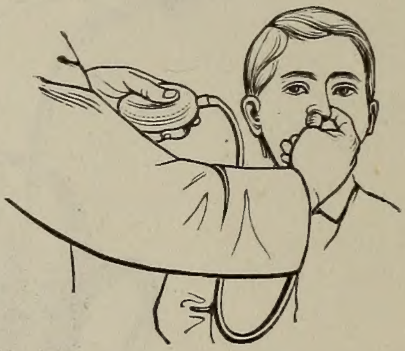

Fig. 3.—Illustrating the degree of compression of the rubber bulb to inflate the Eustachian tubes. The compression of the bulb (2 by 2½ inches) to the extent of one-half of its diameter is all that is required.

His manner of inflation is to direct the patient to swallow a little water, and during the act of deglutition to force air from a soft rubber bulb (Fig. 3), through one of the patient's nostrils, the other nostril being closed. As the avenue down the throat is closed by the soft palate during deglutition, the air must enter the Eustachian tubes and thence into the middle ears.

The nozzle of the inflator should be large enough to completely fill the nostril (Fig. 4), and the opening through it should be so large that the air will enter suddenly in a gust and not in a small continuous stream.

If the compression of the rubber bulbs be continued during the act of swallowing, air will be forced into the tympanum cavity, not because deglutition performs the office of opening the Eustachian tube, but because this act causes certain muscles to cut off the escape of the compressed air by way of the fauces. As the closure of both nostrils prevents its escape through those passages, it must go through the Eustachian tube, though sometimes it passes through the lachrymal canals also.

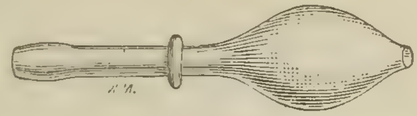

FIG. 4.- Glass nasal tube (half size) for inflating the Eustachian tubes through one of the nasal passages.

It seems to me that this accounts sufficiently for the escape of the condensed air from the nasal cavities through the Eustachian tubes into the middle ears; but all works on the ear that I have examined seem to be impressed with the necessity of accounting for the entrance of the air into the middle ear by other means than by pressure alone, *i.e.:* by the levator and tensor palati muscles opening the tubes at the same instant that deglutition is performed, this opening giving the air an opportunity to pass through to the tympanum. I am well aware that I am contradicting high authority when I assert, as I most respectfully do, that the relation of these muscles to this canal in the healthy subject is such that they cannot open the passage to the middle ear, and that it has never been proved that they do. It is by no means a difficult undertaking to demonstrate that these canals are never open in the healthy subject, that is, using the word open as it is used by Toynbee, Tröltsch, Roosa, Hinton, Dalby, Knapp, Turnbull, Herman, Foster and others.

That the Eustachian tubes are always permeable to air in the healthy individual is true; but that they are ever so open that air may freely enter and leave the middle ear during deglutition, or any other act I know cannot be proved. I know that I stand alone in this.

That deglutition closes the mouth of each Eustachian tube may be demonstrated on individuals who have lost the septum nasi.

This demonstration I have frequently made on quite a number of patients under my care. To make the observation I passed a reflector (Fig. 5) through the nasal passage, reaching to the posterior wall of the pharyngo-nasal cavity. On this reflector I directed a strong light, which illuminated the parts under observation so perfectly that their image was reflected to my eye distinctly. I could see the muscles acting on the organs under inspection during the various motions of the parts, which were made by the patient at my request. I thus made inspections during deglutition both of solids and fluids, during vocalization, and forced and natural respiration. During deglutition, the soft palate was pushed back against the posterior wall of the pharyngo-nasal cavities by the alimentary bolus; it then ascended until its upper surface *closed* and *covered* the mouth of each Eustachian tube. These observations I made a number of years ago, and recorded them in the *St. Louis Medical and Surgical Journal* under the head of "Functions of the Uvula." During the act of phonating, the sounds that pass through the mouth alone, the soft palate was raised, and a portion of its lower border was pressed against the posterior wall of the pharynx. No sound or combination of sounds that any of the patients could make caused the velum to rise as high as it did during deglutition, and no effort on their part, but the momentary one of swallowing, closed and covered the mouth of each Eustachian tube.

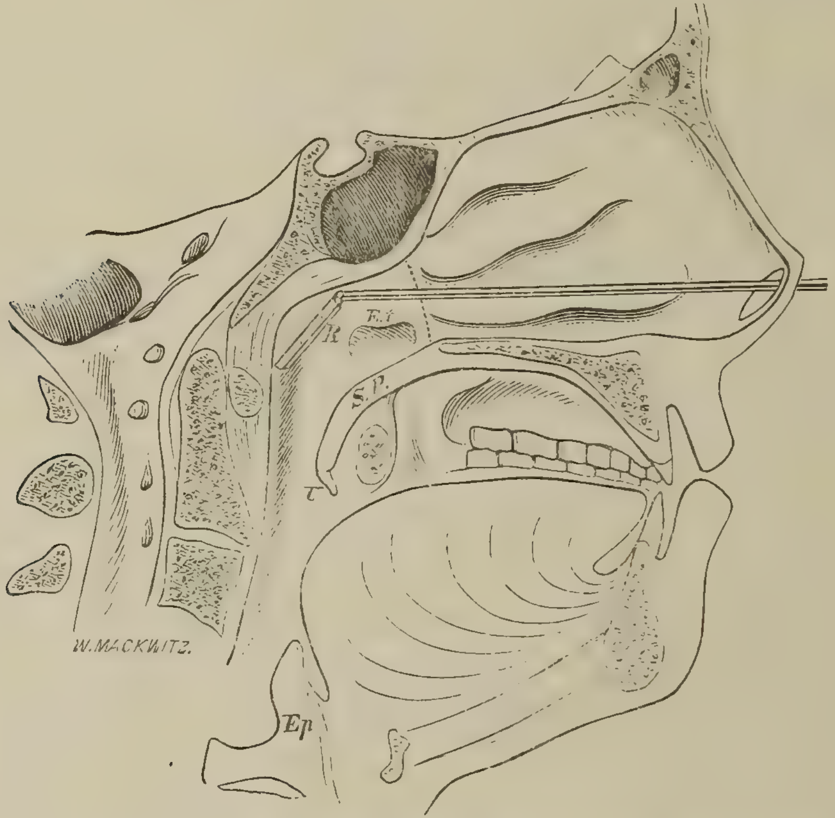

Fig. 5.—Antero-posterior section of the head through nasal passages, showing the position of the mirror reflecting the upper surface of the soft palate, base of the tongue, epiglottis and vocal cords. *E, t*, mouth of the left Eustachian tube; *R*, reflector introduced through the left nostril; *S, P*, soft palate ; *U*, uvula ; *Ep*, epiglottis.

These facts are within the reach of any one to demonstrate on any individual who has one large, straight nasal passage. Place such a person before the window and allow the sunlight to fall into the open nostril; let him make any sound or combination of sounds, and it will readily be seen that, while so doing, he is unable to cause the velum to cover the Eustachian tubes ; but request him to swallow a little saliva, and then the velum will instantly raise and completely hide from view these openings. This prepares the way for the consideration of Gruber's modification of Politzer's method.

GRUBER'S MODIFICATION OF POLITZER'S METHOD.

As it is a fact that during deglutition the velum rises high enough to cover the mouths of the Eustachian tubes, and that no sound that the patient can make will cause the velum to rise as high as the tubes, we can readily see the advantage that Gruber's modification has over Politzer's. I have had a large number of patients claim that more air passes into the middle ear during inflation by Gruber's phonation method than during inflation by Politzer's deglutition method. If this is so, it is another proof that the Eustachian tubes are not opened during the act of deglutition, as asserted by every author on otology. Gruber's modification consists in preventing the air from passing into the fauces, not by deglutition, as done by Politzer, but by directing the patient to pronounce the word "hick" forcibly, which completely closes the passage leading from the pharyngo-nasal cavity to the fauces.

In the *Monatschrift für Ohrenheilkunde* for October, 1875, we find his method detailed. He advises that the patient, whose middle ears are to be inflated, should pronounce the word "hick" in a forcible manner, just as the surgeon is in the act of compressing the India rubber air bulb. The effort to pronounce this word plainly, forcibly and distinctly, causes the tongue to press the velum upward and backward against the posterior wall of the pharynx, and thus, as in deglutition, cut off the communication between the pharyngo-nasal cavity and the fauces. But, as before stated, the pronunciation of the word "hick" does not cause the velum to rise so high that it will close or cover the Eustachian tubes, whereas deglutition does both, nor does the act of phonation call into play either of the muscles connected with the Eustachian tubes.

When water is swallowed the velum closes both the tubes, and thus retains the condensed air above them, nor can this air enter the mouths of the tubes until the soft palate has descended far enough to uncover them; then the air, as it becomes rarefied by the falling velum, enters. When the word "hick" is pronounced the mouths of both the tubes, not being closed or covered, are ready to allow the air to be forced into them at once; and it really enters them with more force than during deglutition, and, as I said, without the aid of the tensor or levator palati muscles to open the way into the middle ears. There is also more time for the air to pass into the Eustachian canals, for the reason that a longer time may be given to pronouncing the "hick" than the time that is occupied in swallowing some water, as it is only in the last portion of this act that inflation can take place, whereas the patient can "hang on" to the "k" of "hick" comparatively indefinitely.

During the first year I used this method (1876) I made frequent comparative trials upon the same patient, trying successively the deglutition and then the phonation method. I inflated the middle ears of several patients who had perforation of the membrana tympani by means of my warm spray producer (Fig. 2), an instrument which throws a steady stream of spray and warm air at a uniform pressure. The nozzle of the instrument was inserted into one nostril, the other being closed, by the patient. In the ear, having a perforated drum-head, I inserted a manometer. By it I could very accurately observe the passage of air into the middle ear, and through the perforation of the membrane. It was quite manifest, both to the patient and myself, that the liquid in the manometer was moved far less by inflation, during the deglutition method, than it was during the pronunciation of the word "hick." With one patient, during deglutition, only two small bubbles of air were forced into the cup of the manometer; while in inflation during pronunciation of the word "hick," the patient retaining the tongue in such a position as to maintain a continued closure of the pharyngo-nasal cavity: very nearly all the fluid was blown abruptly out of the cup, so great was the rush of air through the Eustachian tubes into the tympanum, and out of the perforation of the drum-head and external auditory meatus, and yet no muscular effort was made to open the tubes.

During these experiments the spray from the instrument was thrown with the same degree of force in each case. Now, it is manifest that if the Eustachian tube was opened by or during the act of deglutition, as contended by authors of otology, the air should have passed through the Eustachian tube into the middle ear, and out through the manometer with far greater force than it did while pronouncing the word "hick," but the *opposite* is the fact.

A very important advantage that inflation during phonation has over inflation during deglutition is that the pressure on the middle ear may be continued during quite a number of seconds. This continued pressure may usually be maintained indefinitely, almost, by the use of the catheter, especially on adults; but we more frequently desire a continued pressure on the ear of a deaf child on whom it is difficult to use the catheter. Then, too, a child would repeat the word "hick" a half dozen times, while it would not be willing or able to swallow as many mouthfuls of water.

There are times when the middle ear cannot be inflated either by Politzer's or Gruber's method without causing a painful sensation in the other ear. In such a case, measures must be adopted that will force the air into the ear that is desired, and leave the other undisturbed. This unilateral inflation is usually accomplished by the catheter, but since 1872 I have adopted a measure that prevents the pain from inflation, and obviates the use of this instrument in all cases of this kind, in both old and young, and is as follows:

I direct the patient to close the auditory meatus of the ear that will be painfully affected by the inflation, by pressure upon the tragus with the forefinger, when inflation can be performed without the least pain to the ear so closed. This prevents the outward movement of the drum-head, which is the cause of the pain, by condensing to a considerable degree the air on the external side of the membrana tympani.

I have frequently observed that the hearing of my young patients is very greatly increased by the first puff of air forced into the middle ear. Also, that the patients in whom the greatest improvement in hearing is made are those in whom the secretion in the Eustachian tube is so abundant that in a short time the hearing will rapidly pass away; but if inflation be repeated in ten or fifteeen minutes afterwards, the hearing is again restored. Six years ago (1878) I treated a young patient, whom I retained in the office nearly two hours at each visit, making an inflation once in every ten or fifteen minutes.

In young patients, the secretion closes the Eustachian tube, and a part of it is driven into the middle ear by the first inflation. It soon accumulates again, and requires another removal. If the inflation is not frequently repeated, the recovery of such a case will be greatly retarded; while at the same time, it is of the utmost importance that the catarrhal inflammation of the mucous membrane of the tube should be subdued as speedily as possible.

With older patients, chronic catarrh causes the flow of secretion to lodge in the Eustachian tubes, which frequently, instead of closing the passage, causes the tubes to remain too open, allowing too much air to enter the middle ear. This condition is denominated *patency of the Eustachian tubes.* The closure of the tubes from the accumulation of mucus happens most frequently to the young patient, while the patency is more liable to occur in those of middle age. Why? Because the muco-pus is not alone in the Eustachian tube, but also in the nasal passages. In this latter class it is much thicker than in the young.

RESUME.

Inflation by forcing air from the patient's own lungs, *i. e.*, Valsalva's method, should not be recommended as a means of treatment, nor as an experiment to be repeated, as it tends to increase the congestion of the mucous membrane of the pharyngo-nasal cavity, Eustachian tubes and middle ears.

The Eustachian catheter should be restricted to cases where inflation or medication cannot be made by other means. The proportion of such cases, according to my experience, is about one in two hundred cases. If recourse must be had to the catheter, its use should be discontinued as soon as inflation can be accomplished by other and less irritating means.

The Politzer method, or nasal inflation during deglutition, is a good one for inflating the middle ears of children who are afraid to repeat the word "hick," from fear of reproducing the sensation in their ears caused by inflation, and for some whose soft palate is so debilitated by catarrhal inflammation that they cannot pronounce the word "hick" with a sufficient degree of force to prevent the condensed air from escaping into the fauces.

Gruber's modification of Politzer's method, that is, nasal inflation while phonating the word "hick," is preferable for all those ear patients who can pronounce the word plainly, and whose velum, in so doing, has sufficient strength to prevent the escape of air into the throat, and whose Eustachian tubes will allow air to be forced through them. In my judgment, this class of cases constitutes fully nine-tenths of all those requiring to have the middle ears inflated.

ARTICLE II.—LACTIC ACID VEGETATIONS IN THE THROAT AND URINARY BLADDER. A Medical Paper. By EPHRAIM CUTTER, M.D., New York.

Lactic acid is a familiar substance found in sour milk, sourkraut, etc. It is a result of fermentation, or, to speak more accurately, it is a chemical substance produced by the action of the protoplasm of the lactic acid yeast plant on such organic substances as milk and cabbage, for example. As the alcohol and the vinegar (acetic acid) of common yeast are produced by the protoplasmic phyto-chemical action of the torula cerevisciæ, so we have a lactic acid and alcohol.

This paper seeks to show that this lactic acid vegetation is encountered in practical medicine as a parasite, and that in certain conditions of physical irritation caution should be used in giving lactic acid as a medicine and milk diet in connection.

In the spring of 1883 Dr. Salisbury called my attention to a patient of his who presented in his throat and urinary bladder this vegetation. The sufferer was a gentleman, past middle age, who had for years endured a good deal of vesical irritation, retention of urine, with at times severe pains in glans penis, bladder and rectum. He had been in the hands of skilful surgeons, and no stone found in bladder as late as 1881. Among other things, he had been given lactic acid as a medicine three times a day, and been living mostly on a diet of milk. At the time when he came under our observation, his throat troubled him by filling up with long, adhesive, gelatinous masses, somewhat like "mother of vinegar." There was frequent micturition; terrible pain in urinary organs. Catheterism frequent. *Urine, on boiling, turbid,* with lactic acid fermentation, vegetation and Anabeina.

The suffering experienced during, and especially after, the physical exploration of bladder with a sound, in 1881, was so great, that on no consideration would the patient allow another "sounding," though urged. Indeed, the passage of a soft rubber catheter by the patient himself caused urethrismus. Hence, there was a neglect, as the sequel showed. An examination of the gelatinous oral excretion under the microscope showed the fully-developed filaments of the lactic vinegar with lactic acid alcohol plants, and the lactic acid embryonal vinegar plants (Fig. 1).

As in the mother of vinegar we find the mature mycelial filaments running through the gelatinous mass, the alcohol plants (conidial form) and the vinegar plant (embryonal form) with acetic acid as a result, so here were found the like morphological elements, but differing in being smaller in size and producing lactic acid.

In the urine the conidial and the embryonal bacterial form of the lactic acid fermentation were also found, not only after the lapse of hours, but also immediately on voiding, showing that the vegetation was growing in the bladder and constituting a diseased condition, which, in like cases, demands the attention of the physician.

When urine is voided in health no vegetation of any kind should be found in it until several hours have elapsed, the time depending on the season of the year and the temperature in which the urine is kept. But when the urine immediately on voiding is found to contain a fermentative vegetation in one or all of the three forms, bacterial or embryonal—conidial or alcoholic—or mycelial, the practical inference should be at once drawn that this vegetation is of itself a diseased condition, which may be, and is probably, often the cause of neurotic disturbances, general or local, from the topical irritation set up, as, for example, vesical tenesmus—urethrismus—spasmodic stricture and other sequelæ, as epileptic reflex disturbances, resulting from the hyperæsthesia.

The opinion is expressed that some cases requiring catheterization, with stricture or not, are aggravated, if not caused, by cryptogamic vegetation growing in the bladder, and were they removed by destructive injections the need of the catheter would be reduced, if not removed. There are to be seen cases where a moderate amount of vegetation within the bladder causes no disturbance, but the time may come when the toleration of the bladder becomes exhausted and the neuroses follow.

A uterine lesion which confines in bed one woman will in another case cause no trouble whatever, the woman sometimes boasting of her good health. Dr. Sims told the writer: "I am perfectly well." Not long after he died, showing the unreliability of subjective diagnosis, that a state of health is a variable quantity

—that the human machine will appear to run well, even though out of order. So vesical vegetations must not be deemed healthy so long as they excite no trouble; for, on the same principle, a stone in the bladder would be thought normal until it caused mischief.

The history of this case would be incomplete were the following omitted: By the disuse of milk and lactic acid, and the use of hot water, beef and other animal food, gargles of carbolic acid, the vegetation was removed from the throat. The vesical vegetation and distress was mitigated, not cured, by vesical injections of watery solutions of salicylates of soda or benzoate of soda and sulphate of morphia (at times). After a season he changed doctors, and the substitute overcame the opposition to sounding. A stone was found in the bladder and removed by lithotomy, to the great relief of all concerned. The unwisdom of yielding in the matter of thoroughness in exploration, and of trusting to a two-year-old negative evidence of stone, is clearly seen.

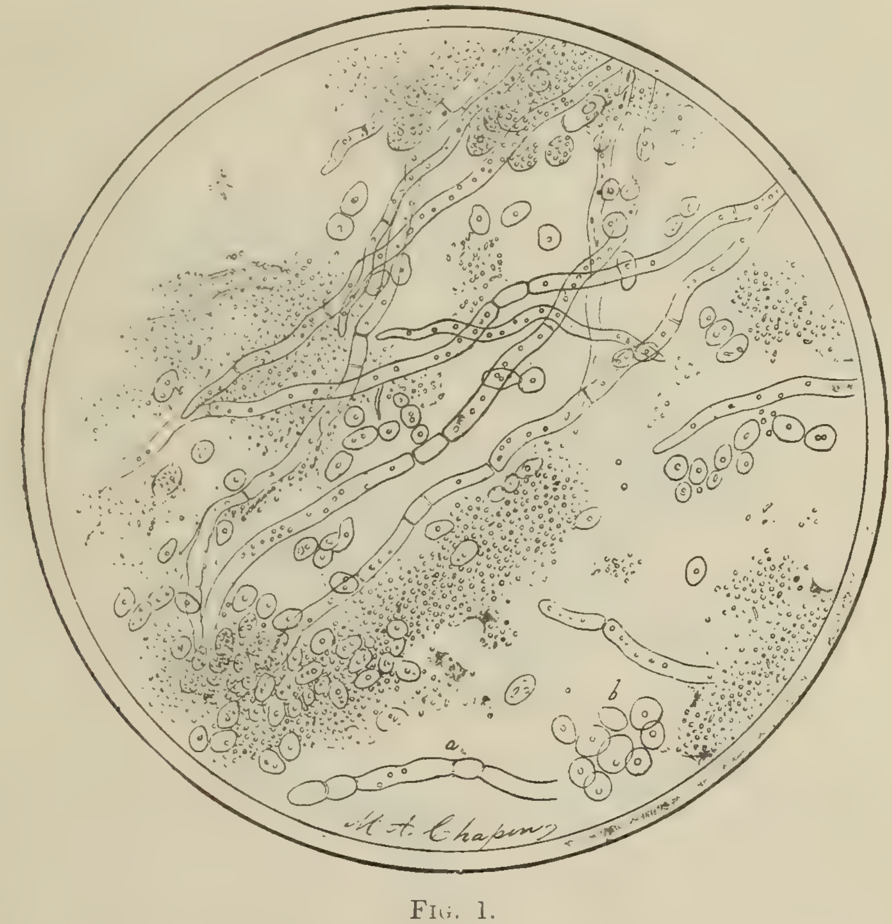

FIG. 1.

DESCRIPTION.—Morphology of the tough gelatinous mother of lactic acid vinegar from the mouth of a person who had been taking lactic acid and milk diet. Same found in urine, so much the system was saturated.

a. Mature mycelial filament. None of these filaments cross the field.

The cross-markings in the filament show the contiguous cell walls that go to make up the chain. In some filaments these cross divisions have disappeared.

b. Lactic acid alcohol plant. Conidia mostly oval, and some globular. They are seen scattered through the field. Some filled with spores, some with one or more spores inside and one empty.

To the right of *b* is a collection of small round bodies. These are the lactic acid vinegar yeast. By some they are called bacteria and ultimate forms of life.

Like groups are seen all over the field.

These make three phases of the lactic acid vegetation.

1. The mycelial filament or mature plant.
2. The conidial form.
3. The embryonal form.

These are exactly parallel in the three phases of the acetic acid or vinegar fermentation, except in being more minute and delicate, and in producing lactic acid.

When air is excluded the second and third forms are found, but when located in the cider barrel or patient's throat, the first form is found because of the free access of air.

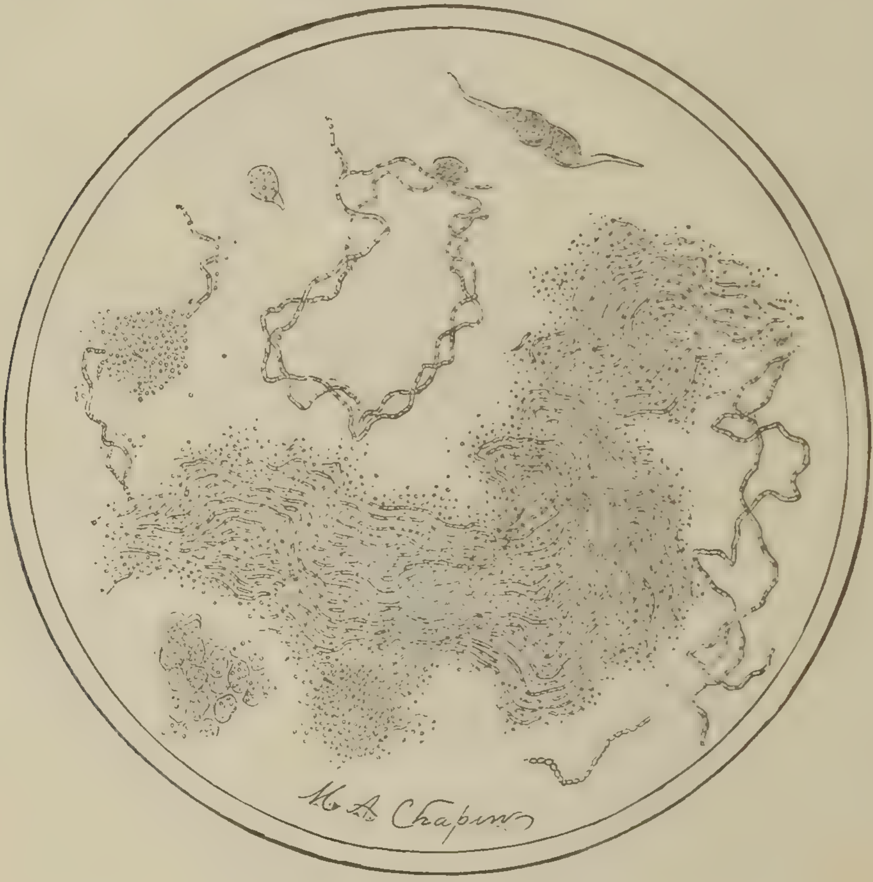

FIG. 2

DESCRIPTION.—A species of Anabeina found also in the urine of the case referred to. It is of extreme subtleness, delicacy and beauty. The three phases are seen.

1. Mature filaments, peculiarly curled and twisted, deeply cross-marked, in skeins.

2. Conidial forms—under left end of 1.

3. The embryonal form seen to the right of 2. Above the left end of the skein near the periphery of field is a mass of embryonal forms from which issue two mycelial filaments.

Two caudate mucous cells are seen at the top of field, which raised the question of cancer, but which has not been verified. They may be the result of the disturbed nutrition.

GENERAL REMARKS.

Were the physical exploration of sputum urine and bladder more thoroughly practised, perhaps this case would not be so rare. There is no difference of opinion about the desirability of getting rid of a stone in the bladder, nor should there be about getting rid of a vegetation from the bladder. With soft rubber catheters and a single bulb syringe it is easy to inject 4 to 6 ounces of saturated watery solution of benzoate of soda, salicylate of soda, or corrosive sublimate, 1 part to 2,000—which latter is the most effective, though more heroic—once in a day or two, according to the effect produced. If the urine is cleared of the vegetation—and this is best decided by the microscope—it is sufficient for the time. The patient can be taught to make the injection better than the attendant, in my opinion.

In all cases of stricture it is well to explore the urine immediately on voiding, to see if there is present any intervesicular vegetation, and if so to remove it. Those who believe in all bacteria being ultimate forms of life are expected to dissent. Time was when the writer was with them, but the conviction of the opposite has been forced by experience and observation. According to the mode of handling will they propagate in the embryonal form or in the maturer forms. The fact that potatoes are propagated by sowing the "eyes" of the tuber none the less prevents their propagation by seeds, nor does it prove that the eyes of the tuber are the ultimate form of the mature plant. But practically there need be no quarrel, for, as one clears out weeds from the garden without thought so much to their botany as to their noxiousness, so may the physician and surgeon weed out an infested bladder to advantage.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

Hepatic Colic and Pregnancy.—Dr. Cyr (*Rév. Med. Chir. des Maladies des Femmes*) reports fifty-one cases. In eleven of these the first attack took place during pregnancy, in four cases it followed miscarriage, and in thirty-six occurred after labor. It is associated with suppressed lactation, a defect or diminished activity, a want of proper régime, and bad hereditary antecedents. Heredity was found to be in four cases hepatic heredity; in one case arthritic; in five cases there were previous or concurrent arthritic symptoms. Pregnancy alone was the cause of the great mass of cases. In a general way biliary calculi have a particular tendency to form, from some modification in bile composition, either from the sluggishness of bile circulation, or from an obstacle to its passage through the biliary ducts. Pregnancy results at times in a more or less marked fatty hepatic degeneration, but it is certain that this condition is favorable to the formation of calculi. Compression of the liver occurs during the last months of pregnancy, and as a consequence a slowing of bile circulation ensues, with a tendency to the separation of the bile constituent fluid, and precipitation of cholesterin. This connection between pregnancy and hepatic colic is interesting from a diagnostic standpoint. Prognosis in pregnancy, except in cases of jaundice, is not affected by hepatic colic. The physician should insist upon exercise, proper alimentation, and other means, the prophylactic value of which are recognized.

ACUTE MANIA RELIEVED BY ANTI-SYPHILITIC TREATMENT. — Under this title Dr. F. N. Otis related (*New York Med. Jour.*, Vol. XXXVI.) the case of a young man under his care, as follows: The patient had been abroad, and had probably led a somewhat dissipated life, but on his return was in an excellent state of health. Shortly afterward, however, he showed symptoms of acute mania; two prominent alienists pronounced his case one of commencing paretic dementia, and gave a very unfavorable prognosis. After remaining in Bloomingdale Asylum several weeks, contrary to expectation he became quite rational, and then said that he had been undergoing a course of anti-syphilitic treatment, and within a short time a syphilitic papular eruption developed. How much (*Journal of Nervous and Mental Diseases*) is this case worth as a test of the opinion of the two alienists mentioned? It can safely be said it is worth nothing at all, since Dr. Otis seems to be totally unaware of the existence of remissions in paretic dementia. It would be advisable, for forensic reasons, for the friends of the young man to adhere to the diagnosis of the alienists while continuing mercurial treatment.

TREATMENT OF RIGID OS UTERI IN 1849.—Dr. Eldredge (*New England Medical Monthly*) states: "Forty-five years ago Dewees was our highest authority in this department of medical practice. We had also Denman and Burns and Smellie and Baudelocque. The rule was with all these masters to interfere as little as possible in the first stage of labor, so long as the presentation was natural and the condition of the woman was otherwise good, even if it should continue through several days. We had the traditional dose of castor oil, and the emollient enema. We had venesection, a common resource very generally used as a preparative measure some weeks before the expected confinement, and in all cases where the patient was of full habit it was repeated at the onset of labor. It was the regular practice, and no one would have felt warranted in neglecting it under the conditions named. In very obstinate cases it was carried to the point of *deliquium animi*. This was especially the practice of Dewees, and I must say that patients did well under it. It may have been used empirically and sometimes unnecessarily; but it is to be regretted that so potent a means of relief should have fallen so entirely into disuse. It is only in convulsions now that it is employed. There are now many physicians of middle age who have never bled, or witnessed the operation. We had, too, the tart. ant. et potassæ, in small doses, repeated to nausea and vomiting, and the ipecac. in the same way, often with very good effect. The belladonna in the form of an ointment applied to the os, which from its specific effects upon circular fibres elsewhere was expected to produce a similar result here—anticipations rarely realized in my experience. We had, above all things, patience, which, as Meigs says, was to have time to 'work her perfect work.' The use of ergot in this form of lingering labor was then as positively forbidden as it is to-day—never give ergot until the parts are well dilated and the speedy delivery of the child practicable, was the strong injunction of our masters of more than forty-five years ago. Many times this rule was not followed ; ergot was always taken along, the forceps purposely left at home. Fortunately the drug was crude and often inert."

PROGNOSIS AND DIAGNOSIS IN INSANITY.—Sankey (*Liverpool Medico-Chirurgical Journal*, January, 1884,) states that the subject of prognosis in insanity resolves itself into the question whether the case is one of "ordinary" insanity or paretic dementia. He gives the following criteria for diagnosis : First. The mode of invasion in "ordinary" insanity will be by depression. Paretic dementia, as a rule, begins by hilarity, busy occupation, absurd conduct and garrulity. Now (*Journal of Nervous and Mental Diseases*), these criteria are valueless. In the first place, the statements about "ordinary" insanity are based on the exploded *doctrinaire* dicta of Griesinger, and show a great ignorance of modern researches. In the second place, paretic dementia not unfrequently begins with depression, and even mutism, and it may present the facial expression of depression with a condition of exaltation, and *vice versa*. Second. In "ordinary" insanity the emotions alone are affected. Now this not true as regards all forms of "ordinary" insanity, and it is true of certain cases of paretic dementia. In paretic dementia all the faculties are involved in a state of exaltation. This is not true of all cases of paretic dementia, and it is true of some cases of "ordinary" insanity, "hypomania" for example. Third. In the depression of ordinary insanity the patient wishes for solitude. The paretic dement rushes into all kinds of society : both equally true and untrue. Fourth. In "ordinary" insanity the affection commences in an insidious manner. Paretic dementia follows upon some great mental shock in persons of sanguine temperament and great mental activity. There is as much, if not more, error than truth in these statements, and as diagnostic criteria they fail just where they are needed.

SYRUP OF RHUBARB, U. S. P., 1880.—W. R. (*Druggist*, June, 1884) finds that syrup of rhubarb prepared according to the new Pharmacopœia does not keep, becoming mouldy in a short time. What is the cause? Syrup of rhubarb as prepared according to U. S. P., 1880, is very different from the syrup officinal in the Pharmacopœia, 1870. The new formula is similar to that of the German Pharmacopœia, as both require an addition of cinnamon and carbonate of potassium, although in somewhat different proportions. The most essential feature, however, of the German Pharmacopœia process has been neglected in the U. S. P., namely, bringing the aqueous extract of rhubarb to boil over a naked fire, and then dissolving in it the sugar. We have observed that in aqueous infusions of some drugs, and more particularly of roots, especially where alkaline menstrua have been used, as in the one under consideration, the preservative qualities of sugar will not prevent the appearance of fungous growths. As those constituents of rhubarb, on which its medicinal value depends, are not impaired in such dilute solution as in the infusion in question by the heat required, we cannot see any objection to its use when properly regulated. By this precaution a satisfactory syrup of rhubarb can be prepared according to the U. S. P., 1884, owing probably to the fact that starch and albuminous constituents are coagulated by the heat, and can be rejected by straining. The vessel used in the operation should, of course, be such as would not be affected by the tannic acid in the rhubarb.

HEART DISEASE AND INSANITY.—Dr. B. Salemi-Pace (*Il Pisani Gazetta Sicula*, Anno IV.) says: Necroscopic observations made among the insane dying in the Manicomio of Palermo have shown that seventy-five per cent. of them presented evidence of cardiac disease. These figures approximate to those reported by Burman, Berti, Samassia and Dufour, but are not in accord with those of Griesinger and Leidesdorf. These latter results contain many elements of error. The results of Dr. Salemi-Pace do not favor the generally accepted view of the influence of cardiac disease in the production and modification of insanity, but show that insanity more frequently favors the production and modification of cardiac disease. The principal cardiac lesions found by him were hypertrophy of the left ventricle, atrophy of the right ventricle, degeneration of the myocardium, and a general fatty state of the heart. Kiernan (*American Journal of Neurology and Psychiatry*, March, 1884,) independently comes to very similar, but not so positive conclusions.

CONIUM IN ACUTE MANIA.—Dr. Thummler, of the Cook County Hospital for the Insane, Chicago (*Medical Journal and Examiner*, Feb., 1884), has had under observation the following case: The patient, a twenty-four-year-old Bohemian, displayed intense *furor maniacorum*, which would come on without warning. When sitting or standing in the grounds with other patients, an outbreak of maniacal furor would come on, and often six attendants were necessary to control the patient. The patient was crafty and agile, and at one time escaped by bolting through the door. He then ran up a ladder to the roof, where he danced over the slates and chimneys' dizzy height with a straight-jacket on. Dr. Thummler found great benefit in this case from the use of Squibbs' fl. ext. conium in ten minim doses *ter in die.* When his dose was missed he became violent. The patient was discharged, fully recovered, after six months' treatment.

POTASH CHLORATE IN GONORRHŒA.—Dr. J. Milton (*Medical Age*, April 25th, 1884) states that he has had excellent results from the internal use of the following mixture in ordinary cases of gonorrhœa : Potash chlorate two drachms, boiling water four ounces. Mix and shake till solution is accomplished ; then add potass. acetat. two drachms, spirits of juniper four drachms, camphor mixture six ounces. M. S. Dose, a tablespoonful twice daily.

TANNIN IN CARBUNCLES —Dr. R. H. Johnson (*Medical Review*) has found tannin a specific for carbuncles. The dry powder is sprinkled on the carbuncle as long as it will dissolve. Twenty-four hours after, it is washed off with castile soap, and the sprinkling of tannin recommenced. The carbuncle soon heals up, he claims, without much pain.

TROPHIC CHANGES IN THE HAIR OF THE INSANE.—Dr. C. Reinhardt (*Virchow's Archiv.*) reports a case of periodical changes in the hair of an epileptic idiot. During the period of excitement the hair changed its color from yellow to red and black ; during the condition of stupor the hair resumed its usual condition. Kiernan (*Journal of Nervous and Mental Diseases*, April, 1878) called attention to the fact that trophic changes in the hair and skin were frequent in hebephrenia, epileptic insanity, paretic dementia, *folie circulaire*, paranoia, secondary confusional insanity and periodical insanity. The occurrence of premature grayness in descendents of neuropathic and psychopathic families is not unrelated to the same subject.

STIGMATA MAIDIS IN GONORRHŒA.—Dr. Leo Bennett, Fort Smith, Ark. (*Therapeutic Gazette*), says that he has had unusual success in the treatment of gonorrhœa by fluid extract of corn silk (stigmata maidis). To him the treatment was quite novel, while it has been a great comfort to the patients, who were entirely relieved within a week, and very often in three days. He depended alone upon the corn silk, and of course made no error in attributing success to that drug. A half-teaspoonful to a teaspoonful of the fluid extract three times a day will prove effectual in male or female.

SALICYLIC ACID IN RHEUMATISM.—The *Medical and Surgical Reporter* says : Instead of giving salicylic acid alone, the following combination acts better and is safe, even in cases of pre-existing organic heart lesions, and seems decidedly to lessen the danger of endo, and pericarditis arising as complications: ℞. Acidi salicylici, ʒii; liquor. ammoniæ acetatis, f℥ij; aquæ destillat., f℥iij; syrup. aurantii cort. f℥j. M. Sig. A tablespoonful in water every two hours. If this combination is prescribed, it will be found that, in cases of acute articular rheumatism, the effect of salicylic acid will be obtained, but collapse will never happen.

Hydrobromic Acid in Malaria.—Dr. Fothergill (*Practitioner*) advises the use of the following in malaria: ℞. Acid hydrobrom, 1 drachm; simp. syr. 2 drachms; water to make 1 ounce. M. Sig. In divided doses during an hour.

Juglans Nigra.—Dr. W. F. Ball, calls attention (*Medical Tribune*) to the valuable medicinal properties of juglans nigra (black walnut). The leaves and inner bark are the medicinal parts, and have alterative, aperient, cholagogue and cathartic properties. He has found it particularly useful in the treatment of eczema and old ulcers. As a cholagogue he claims it has no equal in the materia medica, and that it is an invaluable agent in the treatment of hepatic torpor. Its action as an aperient is due to the amount of bile which it causes to be emptied into the intestines. Of the fluid extract he gives from 10 drops to one drachm, every three or four hours, until the bowels are freely moved, after which it may be continued in smaller doses

Localization of Small-Pox Eruption.—The *London Medical Record* says: "In 1881 there was admitted to the Konotop Hospital a woman suffering from lumbar pain and other prodromal symptoms of small-pox. To satisfy the wish of the patient, Dr. Vetroff painted the whole lumbar region with *tincture of iodine.* On the next day the painted region was found covered all over with variolous rash, while the remaining surface of the body presented only two vesicles. The course of the disease was remarkably mild. Having learnt this curious fact, Dr. Bojinsdi-Bojko (*Vratch*, No. 1, 1883), when an epidemic of small-pox broke out in his district, began to paint with iodine the anterior surfaces of the thighs in every patient who came under his notice in the prodormal stage of the disease. In all four cases treated in this way, the rash was strictly limited to the regions painted, and the course of the affection was extremely favorable. An attempt to substitute a sinapism for the iodine gave negative results."

The Tongue in Health and Disease.—Dr. A. W. Wallace (*MidlandMedical Miscellany*) gives the following condensation of Dr. Beale's remarks on the tongue, as contained in his admirable little work on slight ailments: "A healthy tongue is best known by negative characters rather than by what it is. In order, therefore, to define the healthy tongue, the following conditions are to be excluded: First, the creamy white tongue, which denotes unremoved epithelium and metabolism of tissue in abeyance. Second, the furred tongue, in which the papillæ are elongated, and to which the epithelium adheres in long threads; this tongue is characteristic of inflammation. Third, the pale, sodden, tooth-marked tongue, which is indicative of anæmia. Fourth, the red tongue (*a*) with enlarged papillæ, as seen in the 'strawberry tongue' of scarlatina; (*b*) the smooth and glazed, as in the 'irritable tongue,' which corresponds to the irritated mucous membrane elsewhere, as in the lung from phthisis, or intestines from diarrhœa. Fifth, the dry, brown tongue, pathognomonic of the typhoid state, in which blood exudes and dries on its surface, the secretion of saliva being nil. Sixth, the aphthous tongue, which is often followed by 'punched out' ulcers. This condition of the tongue is not particularly significant of any constitutional disturbance. It is more properly a local affection, and is to be treated with the chlorate of potash. And seventh, the red, fissured tongue, which is generally called syphilitic. Dr. Beale, however, says that this is not necessarily syphilitic, although he has found that the exhibition of the iodide of potassium, with or without small (1-32 of a grain) doses of biniodide of mercury is the most successful treatment."

ORIGINAL TRANSLATIONS.

The Therapeutic Indications of Lupus: M. Ch. Eloy, Hospital Saint Louis (service of M. Ernest Besnier). Translated fron *L'Union Médicale* by H. McS. Gamble, M.D., Moorefield, West Virginia.

THE NATURE OF LUPUS, ITS UNITY, ITS RELATIONS WITH TUBERCULOSIS.—AUTO-INFECTION AND AUTO-INOCULATION, ACCORDING TO M. ERNEST BESNIER; THEIR DANGERS, NECESSITY OF TAKING ACCOUNT OF THEM IN THERAPEUTIC INTERVENTION.—GENERAL TREATMENT.—DIFFERENT KINDS OF LOCAL TREATMENT.—METHOD OF INTENTIONAL IGNEOUS CAUTERIZATION OF M. ERNEST BESNIER.—HIS OPERATIVE PROCEDURE AND ITS ADVANTAGES.

In the skilful hands of learned physicians, the surgical treatment of lupus has taken a high rank among the modern conquests of dermatology. Nevertheless, the bloody methods to-day in favor present some disadvantages. The frequency of relapses and the multiplicity of the sittings have their dangers also, and M. Ernest Besnier, who, for his part, has so largely contributed to render them more perfect, has but recently, in the *Annales de Dermatologie*, criticized them, and demonstrated the advantages of the new treatment of which he is the author, and which he has substituted for them.

In a former memoir, anterior by three years to the recent microbic works, M. Ernest Besnier had already marked out that therapeutic reform in setting forth the views of which he is, in our times, the originator, upon the nature and origin of lupus. It is that, in the medical intervention, there are, in his opinion, two pathogenic considerations which should always be taken into account—the unity of lupus on the one hand, and its definite classification with the number of local tuberculoses on the other. Whence consequences and therapeutic indications the practical urgency of which very certainly require no demonstration.

In the first place, for M. E. Besnier, the unity, or rather the "unicité" of lupus cannot be placed in doubt. To speak of syphilitic lupus, of cancerous lupus, is to confound distinct morbid varieties, to return to the infancy of clinical observation; or yet, with the old practice, to place lupus among the varieties of herpes because it has the march of the dermatoses of a spreading form. Let syphilitic or cancerous cutaneous affections, like other dermatoses, assume the aspect or the mask of lupus, it matters little. They are not less carcinoderma and syphiloderma, always amenable to the treatment and the prognosis of cancer or of syphilis. They do not deserve, then, the name of lupus.

It is true, according to the opponents of unity, that there are two kinds of lupus: scrofulous lupus, that of subjects the bearers of scrofulous scars; and non-scrofulous lupus, that of patients with lupus free from apparent diathesic signs. In good logic, by the side of the true tubercle of the first, it would be necessary then, in the pathological anatomy of the second, to admit a false tubercle, a pseudo-tubercle, or a tuberculoid. Behold, then, these conventional stigmata variable according to each physician, and consequently of relative clinical value, which are all at once elevated to the rank of a differential and pathognomonic sign! Is there not here a parodoxical distinction? answers M. E. Besnier. How, then, can the conclusion be avoided that, clinically and anatomically, everywhere and always, lupus is a scrofuloderm, and the subjects of lupus scrofulous subjects; or, if it is preferred, scrofulo-tuberculous subjects?

In the second place, this lupus is a scrofulous affection; that is to say, tuberculous; its lesion a scrofuloderm, and the subject of lupus a patient under the influence of local tuberculosis. The proof of this proposition is found in a triple criterion of a clinical, anatomo-pathological and microbic order.

From a clinical point of view, M. E. Besnier has shown the relative frequency of phthisis in patients attacked with lupus. Recently, even, in examining carefully thirty-eight lupous patients in his service, or at his polyclinic, he ascertained and caused to be publicly demonstrated that eight of these patients presented undeniable physical signs of pulmonary tuberculosis in different stages. In this series, the proportion of lupous consumptives is twenty-one per cent. Here, moreover, no doubt is possible, for these patients are not only under the influence, but in the full evolution of a declared tuberculosis. Let these facts be added to those anteriorly reported, let the high authority of M. Lailler be invoked; let them be compared with the observations of MM. Quinquand, Doutrelepont, Aubret, and it would truly be necessary to shut the eyes to evidence to place in doubt the relations of causality of tuberculosis with lupus.

If these relations were investigated with more care, positive observations would certainly be more numerous. In the case in question, in fact, the causes of error are multiple; the latent form and the habitually silent advance of the visceral lesions sometimes baffle the clinician. Besides, many of these patients preserve the external attributes of good health and of the *formositas strumosa*, with deceptive appearances.

For M. E. Besnier, the tuberculosis of lupous subjects belongs at the same time to those forms which ought to be examined, and to those which ought to be ferretted out by means of the delicate methods of the modern clinique.

Of what good is it, moreover, in order to affirm the dualism of the two affections, to invoke the absence of all hereditary influence in the pathogeny of lupus, or of the symptomatic differences from that other dermatose, classically described under the name of cutaneous tuberculosis? On the one hand, the non-heredity of lupus—were it always incontestably demonstrated—is a very feeble argument, since, in our times, the heredity even of tuberculosis is sharply and legitimately discussed. On the other hand, the symptomatic differences cannot alone serve as a solid base to a pathogenic doctrine. Variety in clinical forms proves the multiplicity of the clinical features of the same morbid type, and not the diversity of the anatomical process from which it arises. According to these views, and others still, which M. Besnier sets forth at length in his two memoirs, it is not a heresy, but a scientific verity, to place on the ground of symptomatological variety the tuberculo-scrofuloderm of lupus by the side of the neoplasm of the cutaneous tuberculosis of authors.

The anatomo-pathological criterion furnishes, it is true, some arguments to the partisans of both doctrines. With Friedlander, who had observed caseous nodules in the ganglia of the lupic regions, with Schuller, Stilling and Koester, some make of the lupous lesion a local tuberculosis. But other *savans* of high merit, as MM. Hardy and Vidal, in France, contest this opinion with Auspitz and Baumgarten. Whence difference of opinion upon the value of the results of histological observation. According to the testimony of the former, tuberculous follicles have been found in the neoplasm of lupus; but the latter have also demonstrated them in the syphiloderms and in other neoplasms. In the point in question, the anatomo-pathological proofs would not carry conviction if they did not derive from the facts cited by M. E. Besnier a character of truthfulness and a demonstrative value.

But there are some who appeal to the presence of the bacillus of tuberculosis in the lupous tissue. Demme, Doutrelepont and Pfeiffer have just observed it; Schuchardt and Krause make the same observation upon four subjects of lupus in a series of forty cases of local tuberculosis. There are some, finally, who demand, by the inoculation of lupus tissue or of the liquid of culture, the experimental verification of these observations. Here, still, between the positive results, but debatable ones, of Schuller or of Hueter, and the negative, but not decisive experimentations of MM. Cornil, Vidal, Leloir and Malassez, the microbic criterion would leave the mind undecided, in default of observation at the bedside of the patient.

Consequently, in the trial actually pending as to the nature of lupus, the contradictory judgment of histologists and experimenters is not without appeal. In the opinion of M. E. Besnier, it does not invalidate the evidence of the clinique, and proves nothing either against the identity of the tuberculous lesion with the scrofulous lesion, or against the ties of relationship, and even of union between the two morbid processes of local tuberculosis and of lupus. Hereafter, these facts will have to be taken into serious consideration in the treatment of this dermatosis. Such is the practical conclusion of these two memoirs of the physician of the Hospital Saint Louis.

To destroy carefully the tuberculo-scrofuloderm is the first therapeutic indication to fulfil. To avoid letting this operation become the point of departure of an auto-infection, or the origin of an auto-inoculation, such is the second indication. For M. E. Besnier, this is an important consideration. Whether the lupus has made its *débût* by the hypoderma or the epidermis, it is, says he, the product of a parasitic element derived from without; an abrasion of the epidermis has served as a door of entrance to it, and has been the seat of a primary accidental parasitic inoculation. The lymphatic condition of the subject—ordinarily young, as statistics prove—constitutes a favorable ground for the implantation and the germination of this element. This tuberculosis is local; but let some imprudent, insufficient, inopportune intervention take away from the tissues in the neighborhood of the tumor their tolerance and their resistance, and there will be created a secondary tuberculous focus of auto-inoculation.

From these considerations results the necessity of imposing also upon the patient a general treatment. For this purpose, and in order to combat the peculiar condition of the lymphatic system, it is useful to prescribe cod-liver oil, arsenic, the sulphurous waters of Cauterets, of Luchon, of Bonnes, or of Alevard. But in the absence of local treatment, and even in large doses, these agents never produce curative effects. It is the same with iodine and the iodides so vaunted for internal use, and which, useful against syphilodermata engrafted upon the subjects of lupus, as M. E. Besnier has often seen, are powerless against the neoplasm itself. In the local treatment there is one point upon which we cannot insist too much, it is to proceed with prudence in the destruction of the lupous tumor. It is necessary to use circumspection in the choice of the operative measures, and to prevent the formation of a focus of auto-infection or the dangers of an operative auto-inoculation. Among the agents of local medication, which are they that satisfy these therapeutic requirements? There are some whose inertness experience demonstrates; such are the simple topical applications, antiphlogestics (warm douches, cataplasms), resolvents, counter-irritants—"plaster of Vigo, mercurial preparations, saturnine or mixed compounds, iodized pomades, solutions of perchloride of iron, chloride of zinc, alkaline solutions, vesicatories"—all agents procuring only, if perchance there exist some authentic cases, doubtful cures. It is at most as if, with the view of relieving the congestion of the inflamed tissues, M. Ernest Besnier considers emollients as useful accessorily.

Theoretically, the bloody methods, extirpation, scraping, tearing out, answer to the local indication; but upon the condition, however, of practising the total removal of the morbid tissue. And yet, even if they should completely fulfill this condition, they always incur the danger of general auto-infection, or at least of local reinoculation from the cut surfaces. It is to expose oneself also to the risk of increasing the number of lupous subjects, who become phthisical sooner or later. Délaceration, that is to say, linear scarifications, never exempt from these dangers, requires the repetition of the operation during a considerable time, and, in the majority of cases, gives no certainty of an absolute cure. M. Ernest Besnier, who, after M. Vidal, has extended, made clear and completed the procedures, does not hesitate to condemn them in the treatment of all cases of local tuberculosis. Is this not, moreover, the same reproach which M. Verneuil has directed against certain forms of mechanical treatment of tumors of the same nature?

Retain the caustic methods? Of the two procedures of chemical cauterization, cauterization *en masse* and interstitial cauterization, the first has produced but a few temporary cures, at the cost of acute suffering, of considerable loss of substance and with the inconvenience of cicatricial deformities, so much the more formidable from the fact that lupus is frequently located upon the face. As to the second, it is still very imperfect, in spite of the employment of the Pravaz syringe, the trial of the greatest variety of caustics and the perfecting of the operative procedure.

It is not so with the igneous cauterization. This method of a still too-restricted employment, assures the entire destruction of the neoplasm, the rapid reparation of the therapeutic traumatism and prophylaxis against inoculation.

For this purpose, M. Ernest Besnier employs the interstitial fragmentary cauterization by heat, a method which he considers as superior to igneous cauterization *en masse.* Whilst avoiding the inconveniences of the latter, it would have all its advantages, would produce regular cicatrices, abridge the sojourn at the hospital and the duration of the treatment, and would accommodate itself to the exigencies of form, of extent, or even of the seat of the neoplasm upon the skin, the buccal mucous membrane or the pharynx.

What is the instrumental apparatus? As to the source of heat, the thermo-cautery, or, preferably, the galvano-cautery, having for electrical generator a bichromate of potassa pile, and the current regulated by the elevation or depression of a spring; as to armatures (instruments), simple needles or with multiple points, scarifiers, divers knives and galvano-caustic buttons adapted to the same handle, pressure upon which opens or closes the current at will and under the finger of the operator. The operative procedure is simple. Seated or lying down, according to the seat of the tumor, the position of the patient is such that the diseased region is always in full light. General anæsthesia rarely seems desirable, and the employment of local anæsthesia is governed by the established rules. Seizing the neoplasm between the thumb and the fingers of the left hand, M. E. Besnier practises punctuations or scarifications exceeding by one or two millimetres in extent the limits of the tumor, and penetrating in depth even to the sound tissue. The hand takes note, moreover, of this penetration by the resistance it then meets with. According to the recommendations of the author, the proper degree of heat is a deep red, and that to be avoided a white-red (rouge-blanc), for the operation would become bloody; the form of the cauterizations ought to be varied from that produced by the button to the electro-caustic "grille," according to the extent of the tumor, the topography of the region (nose, eye-lids, lips, palate, pharynx) and the number of sittings, so as to tattoo or to scarify successively the whole neoplasm.

The eschars are dry, and their immediate dressing consists in the application of inert powders, of a simple bandage, in case of an accidental flow of blood, or of tarletan, saturated with a solution of boracic acid, if the lupous ulceration is discharging. A few days afterwards, the avulsion or the spontaneous fall of the mortified parts exposes to view some depressions with a dry base, rarely granulating, and then amenable to lunar caustic.

With time alone the cicatrices become smooth, for the disappearance of the galvano-caustic impressions requires a few weeks or months. Then one may judge of their pliability, of the conditions of their surface, and of the results of the operation.

This therapeutic measure has the advantage of simplicity, and the merit of fulfilling the pathogenic indications to which its distinguished inventor attaches such great importance. Besides, if the future should confirm definitively the hypothesis of auto-inoculation, it would most likely become a common procedure in the treatment of local tuberculosis.

In concluding the analytical exposition of the clinical investigations of M. Ernest Besnier, it is our duty to remark with impartiality that, in the point in question, these opinions have adversaries in some observers of merit. Besides, notwithstanding the probabilities in their favor, these conclusions have not yet received the final sanction of statistics. It is necessary then to await results before pronouncing the closing of the discussion and the final verdict.

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COURTESY TOWARDS SENIORS.—Old Blymer for many years had been subject to frequent domestic broils with his spouse. Ultimately they became so distressing and so oppressive that, to get rid of them, he determined to "shuffle off this mortal coil." So he filled himself up with laudanum and went to bed. Mrs. B. discovered what he had done, and began to scream. Soon the neighbors came running in, and as fast as they came were sent off for a doctor. Soon old Dr. Perry came in. He looked at old Blymer, felt of him—"dead, came too late," and left. Then came old Dr. Newton. He looked at him, rolled him over—"dead as Hector," and he left. About that time young Dr. Smith came rushing in with a great apparatus under his arm, and several feet of hose, which he instantly crammed down old Blymer's neck, and pumped up the drug store; then reversed his pump and flooded him with a few gallons of water, and rolled him about as if he were washing out a whiskey barrel. Old Blymer, not being used to taking so much water in him, began to squirm and draw up and clutch at the bed-post. The water was then pumped out, and, by morning, he was up and all right, and young Smith left believing he was the only first-class doctor in all that city. In a day or two he carried over his bill. Old B. said: "What do I owe you for, young man?" "Why, for saving your life the other night." "Well, I didn't ask you to do it," said B.; "I never sent for you; old Dr. Perry is my physician, and I shall only pay him." So young Smith went over to see old Dr. Perry to prevail on him to make old B. pay his bill. The old doctor, adjusting his spectacles, said: "Smith, I have always regarded you as a clever young man, but you did a very foolish thing the other night." "What was that?" "Why, sir, didn't I pronounce old Blymer dead?" "Yes." "Didn't old Dr. Newton pronounce him dead?" "Yes." "Well, that settled it. If you want to succeed in your profession, young man, remember always to observe the strictest professional courtesy, especially towards your seniors."—*Miss. Trans.*

ORIGINAL ABSTRACTS.

Substitute for Blue Ointment.—Vomacka (*Zeitschrift für Russ. Pharm.*) gives the following substitute for blue ointment, which also keeps better : One part of soft and perfectly neutral potash soap is mixed with a little glycerine in a glass mortar, and one part of mercury is added, with constant trituration. When the globules of mercury are no longer visible, add two parts more of potash soap to make four parts. Lavender or other essential oil may be used to perfume it.

Vaginal Suppositories.—Vomacka (*American Druggist*) gives the following directions for making vaginal gelatin suppositories : Take transparent gelatin, soak it over night in water, and then add to it six times its weight of glycerine. If the mass is to preserve its transparency for some time, it is necessary to remove all the water which the gelatin has absorbed, by evaporation. According to the density of the glycerin, more or less of gelatin must be used. Nearly all the usual remedies may be mixed with this mass, f. i., iodide of potassium, sulphate of zinc or copper, etc., excepting tannic acid, which forms an insoluble compound with gelatin. If tannic acid is to be applied, it is necessary to replace the gelatin by agar-agar, a Japanese vegetable gelatin, derived from an alga. Japanese isinglass is prepared chiefly from *Gelidium spinosum ;* agar-agar (which is *not* identical with the former) is prepared from another alga *Eucheuma spinosa*) ; in the case of agar-agar, however, the relation of glycerin to water is different. Agar-agar does not furnish a jelly with glycerin alone, but forms a transparent mass, which is tough when heated. Hence, an addition of water is here absolutely necessary. One part of agar-agar is soaked over night in water, of which it takes up nearly fifty parts, ten parts of glycerin and twenty more parts of water are then added, and the whole evaporated to the required consistence. During the fusion of the mass, stirring is to be avoided as much as possible. Ascending air-bubbles are to be removed from the surface with a stiff cardboard, so as to keep the mass clear and transparent. The prescribed remedies having been added, either in form of solution or in very fine powder, the mass is then poured out into suitable forms and allowed to congeal.

Matschalka is a substitute for sponge, its synonym being given in the announcements as " Caucasian washing sponge " (*American Druggist*). It is a Russian word, denoting a bunch of linden bast used for scouring bath-tubs, sinks, etc., or for whitewashing walls. It is commonly used as a packing material. This name appears to have been applied to the new substance (" Caucasian washing sponge ") probably because it has some similarity with it. According to Professor Wittmack, it " is derived from bananas," and is perhaps plain banana fibre (see *St. Petersb. Med. Wochensch.*, 1884, No. 4). Professor Wittmack stated that it was probably obtained from the refuse of manila hemp (*Musa textilis ; Bot. Centralbl.*, 1884, No. 10). It is reputed to have antiseptic properties, and " to be unable to take up septic matter." This claim, of course, is more than doubtful.

Veratrine in Pruritus—Dr. J. Cheron (*Jour. des Maladies des Femmes*) treats the pruritus, which appears at the menopause, with or without prurigo, urticaria, eczema and herpes, by a pomade of—Veratrine, 15 centigrams ; lard, 30 grams ; of which he applies a piece the size of a small pea morning and evening. When the pruritus is general, the internal use of veratrine is preferable in the following doses: Veratrine, 2 centigrams; pulv. glycyrriz., *q. s.* Divide into forty pills. Two to six pills a day, half an hour before eating, or three hours afterwards, taking but one pill at a time, and increasing by one each day, until the maximum dose (3 milligrams) is reached.

SURGERY AMONG THE INSANE.—Dr. Hjerstrom (*Hygiea*, Bond XLV.) reports the case of a forty-nine-year-old periodically insane single woman, who was subject to eroticism, and had had three children. During one of these erotic attacks she introduced a candlestick socket into the uterus, where it caused some inflammatory trouble and secondary leuchorrhœa. Investigation made as to the causes of the latter revealed the presence of the foreign body mentioned, which was removed. The case (*Journal of Nervous and Mental Disease*) suggests the propriety of examining as to the cause of fœtid leucorrhœa in female lunatics.

TURPENTINE VAPOR IN INFECTIOUS DISEASE.—Dr. H. Vilandt states that when (*Ugeskrift for Laeger,* Vol. III., 1883) turpentine was used in the treatment and prophylaxis of diphtheria and the exanthematous diseases, he has never seen any of these diseases spread from a sick child to the other members of the family. In many of his cases isolation was not practicable. He pours from twenty to forty drops of a mixture of equal parts of turpentine and carbolic acid into a kettle of water kept simmering over a slow fire, so that the air of the sick-room was constantly impregnated with the odor of this mixture. He says that by this means a favorable influence is exerted upon the exudation in diphtheria, although it is by no means curative of the disease, and should never be relied upon to the exclusion of other remedies. This last is not new.

OOPHORECTOMY AND INSANITY.—Dr. Lee (*New York Medical Journal*) recently cited a case in which an operation for removal of the ovaries was done in the case of a patient suffering from pelvic pains and hysterical symptoms, and after the operation, although the pelvic pains ceased entirely, the mental symptoms at once became worse, and finally the patient had to be sent to a hospital for the insane. *The Journal of Nervous and Mental Disease* says: While it is possible the operation aggravated the case, it is much more probable that the aggravation of the symptoms, like these so frequently reported, improvement after oöphorectomy was merely a coincidence. Dr. Thallon (*Archives of Medicine*, April, 1884) states that oophorectomy is worse than useless in insanity unless it can be shown that the organically affected ovaries exert a bad influence on the mental condition.

COLD DOUCHE IN COLIC.—Dr. Tepliashin (*Vratch*) speaks very strongly as to the beneficial effect of cold irrigations applied to the abdomen in colic, by directing to the painful region a thin stream of cold water from a teapot lifted a foot or a foot and a half from the abdomen. He has seen rapid relief of even the most excruciating pains follow from this when the internal administration of opium and subcutaneous injection of morphia had failed.

PRIMARY UNION AFTER THERMO-CAUTERIZATION.—Dr. Reclus (*Revista Clinica e Terapeutica*, November, 1884) concludes: 1. That primary union may occur after thermo-cauterization. 2. In order that this may occur, the eschar formed by the cautery should not be very thick. 3. All septic infection should be guarded against. Primary union occurs since the charged tissue is very light and easily penetrated by new vessels. The embryonic cells at either border insinuate themselves between the carbonized particles, anastomose, and union occurs. Antiseptic precautions are, however, absolutely essential.

ALUMINIUM OLEATE.—Dr. Stelwagon (*Medical and Surgical Reporter*, March 15, 1884) says that oleate of aluminium is light yellow in color, of plastic consistence, and somewhat adhesive. For application it should be melted with an equal part of a fatty base, such as lard or cosmoline. It possesses an astringent action, as well as being somewhat stimulating. It may be prescribed in all skin diseases in which there is much discharge, such as dermatitis, pustular eczema, etc. In the treatment of simple ulcers an ointment of this oleate is frequently productive of improvement. In pustular eczema of children it is useful, checking the discharge and exerting an alterative action on the diseased skin.

VACCINE.—Dr. Worlomont (*Medical Press*) concludes: 1. That neither the horse nor the ox, nor, indeed, any other animals can be considered as strictly vaccinogens, for they do not create in themselves the one horse-pox or the cow-pox, which furnishes vaccinal matter, unless they are first impregnated with the germ of the same. 2. The original seed of the vaccine, in its relations to the horse and the cow, is nothing more or less than small-pox, which, when admitted into the organism of those animals, undergoes an attenuation which produces the vaccine disease. 3. This attenuation is less in the horse than the cow, therefore the horse-pox is more nearly related to small-pox than the cow-pox. 4. The horse is a bad subject for the cultivation of vaccine matter, for animal vaccination requires that the virus should be more attenuated than it is when passed through the organism of the horse. 5. The small-pox impregnation, or artificial vaccine, can be produced in the horse, as in the cow, by means of inoculation or intra-cutaneous injection, without any other inconvenience, and immunity from the variola may be secured thereby.

CHANCRE EXCISION.—P. Spellman (*Annal. de Dermat. et Syphil.*) concludes: 1. In cases where excision apparently succeeded it cannot positively be said that the operation had an abortive influence, as in many cases a chancre of apparently specific nature is not followed by secondary phenomena. 2. Excision is not dangerous when antiseptic methods are used. The wound heals very rapidly by first intention. 3. Great difficulty may arise from the situation of the chancre, as its destruction might cause mutilation of some organ. 4. Chancre excision may have no influence on the further development of syphilis. 5. Some authors hold that chancre excision makes the syphilis less severe; the chancre being a sort of depot of syphilitic virus, its destruction ought to diminish the intensity of the affection. Although it be established that excision can prevent or modify the evolution of the disease, yet it is necessary that the operation be performed before the glands are affected; if there be induration of the cicatrix accompanied by affection of the glands, it is certain that the result will be unsatisfactory. Excision does not, in the majority of cases, prevent the further development of syphilis, although performed under the most favorable conditions.

IDIOPATHIC TONGUE AND CREMASTER CRAMP.—Berger says (*Neurologisches Centralblatt*) localized tongue spasms are so rarely met with that their existence has been doubted. In two cases, where this condition was well marked, there was bilateral clonic spasm of the protrusors of the tongue. Reflex cremasterit spasms are not rare, and in two cases the spasm was clearly idiopathic. It occurred both by day and by night, each attack lasting two or three minutes; the pain was very great. In one case atropia injections were successful; but failed in the other, where galvanization (from the spine to the scrotum) afforded complete relief.

TARTARIZED ANTIMONY IN CROUP.—Dr. A. C. Post (*New York Medical Journal*) had been called in the evening to see a child, about two years and a half of age, whom he had been treating for an injury of the hand, and who then had symptoms of croup. The breathing was a good deal impeded from what appeared to be laryngeal causes; no membrane, however, was visible. Dr. Post therefore believed the case to be one of catarrhal laryngitis, with spasm of the glottis. Chloroform was administered, first to relieve spasm, and, second, to enable him to incise the gums, which had been giving a little pain. Afterward a solution of tartarized antimony—one grain to eight ounces—was ordered to be administered in teaspoonful doses every half-hour until vomiting or relief followed. The child was doing well the next morning, and no further treatment had been required.

Reduction of Subcoracoid Dislocations.—Reduction of subcoracoid dislocations, as directed by Kocher, is accomplished as follows: Patient, sitting up; the forearm is flexed to a right angle with the arm, the elbow pressed firmly to the side of the chest; the arm rotated outward until firm resistance is met with; then the arm, still rotated, the elbow is carried forward and inward over the chest to near the median line; then the arm rotated inward. The last movement is one of restitution, and carries the hand to the shoulder opposite the one dislocated. These maniplations resolve themselves practically into two movements—outward rotation and flexion. Dr. C. A. Jersey (*New York Medical Journal*, Dec. 8, 1883) says the advantages of this method are: 1. The control obtained over the humerus by the position of the forearm. 2. The advantage obtained by the relaxation of the edges of the rent in the capsular ligament. 3 The absence of the necessity for the employment of an anæsthetic. 4. The absence of pain to the patient, and of discomfort to both surgeon and patient, as compared to other methods.

Untoward Effect of Boracic Acid.—Lewin (*Medical Age*) states that, according to Binswanger's investigations, boracic acid in medicinal doses is without effect on the human system; should, however, the quantity given be increased to two or four grams (30 or 60 grains) it may cause a frequent desire to micturate, and an increased flow of urine. After eight grams (ʒij) of boracic acid, taken by Binswanger in two doses within an hour, there occurred nausea and vomiting, and feeling of pressure and fullness of the stomach, which continued for several hours. Following the external employment of boracic acid as an antiseptic, Molodenkow has recently reported deleterious, untoward and even fatal results. A young woman who suffered from pleurisy and hydrothorax was subjected to thoracentesis without previous chloroformization. The pleural cavity was afterwards washed out with a five-per-cent. solution of boracic acid, following which distressing vomiting, and weakness of the pulse set in. On the following day an erythema appeared on the face and soon extended over the trunk. On the third day the erythema having also spread over the lower extremities, the vomiting having ceased, and the mind remaining clear, the patient suddenly died. In the second case, after washing out a deep abscess in the nates of a young man of sixteen years of age, there occurred in half an hour vomiting, debility, and a small, scarcely perceptible pulse, and in two days an erythema, first appearing on the face, hiccough and death. The autopsy revealed no cause of the death, which seems to have been due to paralysis of the heart. The decided poisonous action of boracic acid in these cases is explained by the experiments of Binswanger, who showed that in the internal exhibition of this drug it is rapidly eliminated by the kidneys, while after its injection into cavities it is less readily absorbed, remains longer in the system, and thus exerts its fullest action.

Tendo Achillis Peritendinous Cellulitis.—Dr. E. Raynal (*Archives Générales de Médecine*, Dec., 1883) says that this affection is an inflammation of the areola tissue surrounding the tendo Achillis between the two layers of the leg fascia. These layers unite at either side, forming a sheath in which the tendon plays, which is unprovided with synovial membranes to facilitate the tendon movements. The inflammation may be acute or chronic. The chronic form may commence without any previous acute stage. The subjective symptom is pain, varying according to the degree of inflammation. It occurs only on foot flexion, passive extension producing no inconvenience. If suppuration occurs, the pain is usually very severe. The swelling is limited to the post-malleolar gutters on either side of the tendon, and never appears anterior to that joint. There is no skin-redness as long as inflammation is confined between the layers of fascia. There is more or less elevated local temperature, according to the degree of inflammation. The ankle-joint disease is distinguishable from inflammation, sprain, hydrarthrosis and subcutaneous cellulitis. The localization of the swelling, absence of pain in extension of the foot, and absence of skin-redness distinguish it. The prognosis as regards a speedy cure is not favorable. Treatment consists in rest, in the early stages, local venesection, anodyne poultices, and inunction with mercurial or belladonna ointment. In the chronic stage, vesication, iodine and light cauterization are of value. Care should be taken to avoid pressure over the tendo Achillis. Elastic gaiters should never be worn.

Primary Monomania.—Bjornstrom reports (*Hygiea*, Band XLV.) the case of a thirty-nine-year-old telegraph operator who presented marked hereditary taint. The patient suffered from imperative conceptions and hallucinations; on these last he based delusive religious conceptions which he deemed of such importance that he bored the Royal Ecclesiastical Department with reformatory projects, and was at length sent to the asylum. Bjornstrom cites the case as confirming the views of Snell and Sauder. Under the title *paranoia*, first proposed by Heinroth in 1818, subsequently by Kahlbaum in 1874, and whose use is supported by Arndt, Drs. Silvio and Tonnini (*Archives Italiano per la Malatie Nervose*, November, 1883) discuss primary monomania, describing it under this term as being less ambiguous than monomania; this last term having, from a legal aspect, a decidedly sinister meaning; which of these terms is preferable it remains for the future to decide. Drs. Tonnini and Silvio accept in their fullness the doctrines of Sauder and Snell. Magnan in his recent lectures (*Progrès Médical*, November 24, 1883) supports the views of the subject held by Morel, which were (*Journal of Nervous and Mental Disease*) the starting point of the views of Sauder and Snell, now being gradually accepted by scientific alienists.

Variola and Insanity.—Dr. E. Quinquad (*L'Encephale*, No. 1, 1884) concludes that auditory and visual hallucinations and vesanic phenomena are far from infrequent in the course of variola. These disorders of intelligence are not as a rule of long duration. This last conclusion is much too strongly put.

Delusions Originating in Illusions.—Dr. H. M. Hurd (Report of the Pontiac, Michigan, Asylum, for 1881–82) cites the following cases: A patient who had caries of the femur and for many years suffered more or less pain at the seat of the disease. This has given rise in his mind to the delusion that hot air is blown upon the diseased limb by enemies to annoy him. Another patient who had chronic disease of the stomach, giving rise to slow and painful digestion of food, formed the delusion that his gastric pain was due to the action of an invisible machine which was set in motion by enemies at a distance, and bored into his stomach. Another patient suffers from borborygmi, which she interprets as a voice within talking to her. On other occasions she speaks of it as "something loose" within her abdomen. An epileptic, when he suffers from petit mal, frequently believes that he has a snake in his stomach which moves about and causes pain. When constipated, and discomforted by a loaded rectum, he is positive that the snake has taken refuge there. A patient who suffers from aggravated herpes zoster has a delusion that he has swallowed a large number of persons, among whom are his brother, a priest, and a whole family of children. A patient who suffered from trichinosis had a delusion that worms were crawling through the muscles of his legs. In addition, Dr. Burr narrates the following cases of illusion: A patient fancied that he heard a voice in the squeaking of his shoes when he walked about the corridor. Another heard voices in the whistle of the locomotive whenever a train passed the asylum. Another heard in the coughing of a consumptive associate a voice threatening his life, and became extremely apprehensive of personal injury. Another patient believed that the braying of a donkey utters unpleasant charges against her personal character. It (*Journal of Nervous and Mental Disease*) will be obvious from Dr. Hurd's language that he only illustrates the influence of incidental circumstances on pre-existing insanity, and does not at all lend support to the doctrine so zealously propagated by Ball and Régis.

LECTURES.

MASTURBATION, SEXUAL EXCESS AND ABSTINENCE. Extract from a Lecture of Professor T. Parvin, Jefferson Medical College, Philadelphia, Pa.

From the hurried sketch which has been given you of the sexual debasement prevailing in ancient times, it must be plain that the present is by no means as bad as the past. And yet things in this regard are not as they ought to be; countless evils come upon individuals and upon society because of unregulated sexual passion, and ignorance is largely responsible for this want of proper regulation. For convenience and for clearness of exposition, we may consider the subject of sexual indulgence under the three heads of unnatural, illicit, and unrestrained indulgence.

By unnatural sexual indulgence is meant the gratification of passion by means other than those which nature has provided. Of course, there are many ways in which this may be done; but so far as mere frequency is concerned, remarks may be limited to the single one of self-abuse, commonly called onanism, though really this term, as is readily seen from its origin, ought to be restricted to an act occuring in intercourse between male and female. As the usual method of self-abuse is by the hand, it has been called manualization. The vice is very much more frequent among boys than girls. Apart from any inherent moral difference between the sexes, there is a physiological reason for this difference; in woman, as in almost all females, passivity generally marks the sexual act; woman can abstain from venereal pleasures much more readily than man can. From my own observation I believe that self-abuse is even very rare among women and girls. For ten years I held the place of physician to a reformatory for women and girls, and during that time have had under my care some fifteen hundred females. I assure you that instances of self-abuse were few. And yet many of the inmates of this institution came from homes of vice, and some, even before puberty, had begun the lives of prostitutes. On the other hand, I think that few boys, especially if educated at boarding schools, altogether escape the vice. Masturbation is very rarely a spontaneous act; at least, I have never seen a case of the kind. The boy or girl, so far as my observation goes, has been taught the act by example, or at least has had it suggested and explained by a worse, if not an older, companion. In most cases manualization is soon abandoned, either because he who indulges in it feels it a most loathsome and disgusting act, or because he is warned by a wise teacher, parent or physician, of its injurious consequences. But others persist, to their physical, mental and moral ruin. Masturbation is more injurious than sexual intercourse, because, chiefly, of its more frequent performance, and because of its reaction upon the mind. The great remedies for the onanism of boys are instruction as to their nature by some other means than the reading of vile books, and the experience of vile companions; instruction from parent or teacher; occupation for the mind, and bodily exercise; simple food, and personal cleanliness; last, proper control of the imagination, scrupulously avoiding all impure literature, plays or pictures, and associates who suggest erotic thoughts. A physician's advice to a young man of seventeen, who came to him complaining of pains in his testicles, demanding relief, was, "If I were your father I would make you split wood for an hour or two each day."

Silence in regard to sex is often a darkness in which all foul creations are born. Especially does ignorance of the womanly nature, of what woman really is, give rise to dangerous errors on the part of the growing boy and of the young man. For example, the Roman woman whom the young student meets in Juvenal is not the woman of to-day. The young man who thinks woman altogether such a one as himself in regard to sexual passion is utterly, dangerously, mistaken. If he knew her true nature, he would learn to curb, instead of too often giving loose rein to his erotic thoughts and sensual desires. It is most fortunate for female virtue that woman is not the counterpart of man.

Suppose this adolescent or young man is annoyed by occasional nightly pollutions; does that indicate the necessity for masturbation or for illicit intercourse? By no means.

Our dreams are in some measure determined by our waking thoughts, by what our minds have received—it may be long ago—and by that upon which our minds voluntarily dwell. Cast out from our thoughts all lascivious images and suggestions, and our dreams are less likely to have an impure, erotic character. Man or boy cannot take pitch into his bosom, and not be defiled both day and night. It is to be remembered that, while the genital centre of action is in the lumbar region, that of excitement is in the brain. Further, the seminal fluid is not a very expensive secretion; it is not its loss so much as the nervous excitement, the nerve-shock attending the substitute for the veneral act, or the act itself, which, either in onanism or copulation frequently indulged, breaks men down. Occasional involuntary seminal discharges occurring in sleep ought not, therefore, to be looked upon as such a serious matter.

I cannot condemn too strongly the advice of physicians who tell young men to go to houses of prostitution to relieve this secretion in a natural way. The indulgence of passion is not the way to master it; it is an easy way, an attractive way to tide over a present difficulty; but, in the long run, it proves, in many cases, the unchaining of a tiger; gives it a fierce strength, and it devours in its wrath. Dare any young man, has he any right, to demand of the fair maiden to whom he plights his troth a virtue which he cannot give? Lo! too, disease lurks for the unwary, and a single visit to a prostitute may "touch the fount of his blood corruptedly," so that he gives to his wife whom he afterwards has, and the children he begets, a life-long malady.

I knew an instance where the perfidy of a seducer led his victim, who fell into the depths of prostitution and disease, to visit upon all young men she could allure to her embraces punishment; indeed, afterward boasting that she had communicated syphilis to them. It was a cruel, remorseless vengeance taken upon the sex of her seducer.

Against the wisdom of those who prescribe illicit intercourse as a therapeutic measure, I place the higher wisdom of Solomon, where he refers to the foolish woman that is clamorous, inviting male visitors: "Whoso is simple, let him turn in hither; and as for him that is void of understanding, she saith to him: Stolen waters are sweet, and bread eaten in secret is pleasant. But he knoweth not that the dead are there, and that her guests are in the depths of hell."

Luther said he could not help being a man, and that it was not in his power to live without a wife; she was more necessary for him than eating and drinking. But it has been repeatedly proved, and this by some of the most distinguished and able of men, that man can live without sexual intercourse. Sir Isaac Newton, Kant, Pascal, Beethoven and Fontenelle are illustrious examples. Michael Angelo, when urged by some of his friends to marry, replied: "Painting is a jealous mistress, and suffers no rival." Now, if these men lived all their lives without sexual indulgence, and some of them had their years wonderfully prolonged (and though they left no children to perpetuate their names, they were prolific in great works), surely the young man can wait for a few years until his passion may be legitimately gratified.

In woman love throbs in every pulse, thrills in every nerve and fibre of her being; her life is love. She gives herself to the one she truly loves. If you find out the history of poor seduced girls, those who, as is so commonly said, loved not wisely but too well, you will find that in almost all cases they yielded to the seducer in no paroxysm of sensual passion, but because they loved and trusted with their whole heart; they fell because they sought not their own, but the gratification of another. I do not believe one bride in a hundred, of delicate, educated, sensitive women, accepts matrimony from any desire of sexual gratification; when she thinks of this at all, it is with shrinking, rather than with desire. Happy that union in which the husband understands the womanly nature.

On the other hand, how many women are made wretched by the husband who thinks the highest end of marriage is copulation, and that his wife ought to be equally amorous with himself.

It is a mistake to suppose that the kindness, the kiss and the loving embrace of the wife are, in general, the expression of sexual desire. The following was the exclamation, to me, of a most refined and cultivated lady, the mother of five children, and who dearly loved her husband: "How often we wives would caress our husbands if we did not know the inevitable consequences." I know that I am right as to the womanly nature, and I know that if men generally thus believed, there would be less licentiousness, purer and happier wedded life, and healthier women; for how many women are rendered miserable, both morally and physically, by the sexual excesses and brutalities of husbands. Let me strengthen the position I have taken by some extracts from Mr. Acton's work.

"I have taken pains to obtain and compare abundant evidence on this subject, and the result of my inquiries I may briefly epitomize as follows: I should say that the majority of women, happily for them, are not very much troubled with sexual feeling of any kind. What men are habitually, women are only exceptionally. I admit, of course, the existence of sexual excitement, terminating even in nymphomania, a form of insanity that those accustomed to visit lunatic asylums must be fully conversant with; but, with these sad exceptions, there can be no doubt that sexual feeling in the female is, in the majority of cases, in abeyance, and that it requires positive and considerable excitement to be roused at all; and even if roused, which in many instances it never can be, is very moderate compared with that of the male. Many men, and particularly young men, form their ideas of women's feelings from what they notice early in life among loose, or at least low and vulgar women. There is always a certain number of females who, though not ostensibly prostitutes, make a kind of trade of a pretty face. They are fond of admiration; they like to attract the attention of those immediately around them. Any susceptible boy is easily led to believe, whether he is not altogether overcome by the siren or not, that she, and therefore all women, must have, at least, as strong passions as himself. Such women, however, give a very false idea of the condition of sexual feeling in general. Association with the loose women of London streets, in casinos and other immoral haunts, who, if they have not sexual feeling, counterfeit it so well that the novice does not suspect but that it is genuine, all seem to corroborate such an impression.

"Married men—medical men—or married women themselves, would, if appealed to, tell a different tale, and vindicate female nature from the vile aspersions cast on it by the abandoned conduct and ungoverned lust of a few of its worst examples. There are many females who never feel any excitement whatever. Others, again, immediately after each period, do become, to a limited degree, capable of experiencing it; but this capacity is only temporary, and will cease entirely until the next menstrual period. The best mothers, wives, and managers of households know little or nothing of sexual indulgences. Love of home, of children, of domestic duties, are the only passions they feel. As a general rule, a modest woman seldom desires any sexual gratification for herself. She submits to her husband, but only to please him; and, but for the desire of maternity, would far rather be relieved from his attentions."

Having said this much in regard to the character of woman, are there to be no restraints upon lawful sexual indulgence? Philosophers, divines, legislators and physicians have thought this subject worthy their consideration. Plutarch observed that he is a bad husband who treats his wife as a man does a harlot, having pleasure as his only object.

The canon law allowed intercourse three or four times a week. Mahomed permitted it once a week, on Friday, *Vendredi, dies veneris.* The rule given by Zoroaster was once in nine, by Solon once in ten days. Mr. Acton has said that an indulgence once in a week or in ten days may be the rule for strong, healthy men.

Finally, there comes a period in human life when this pleasure must be abandoned. Cato, indeed, was a father when an octogenarian; but, on the other hand, Louis Philippe, of Orleans, died at fifty-nine, in the arms of his mistress, the Duchess of Phalaris; and the Abbé Maury wrote to his friend Portal, "each time an old man gives himself to the pleasures of love he puts a pellet of earth on his head;" or, as one would now say, "drives a nail in his coffin."

There are certain times when intercourse should not take place. It ought not to take place during menstruation, for it may then cause a urethritis in the male, and it may increase the normal monthly flow till it is a serious hæmorrhage, or it may cause dangerous, internal congestions, or an intra-pelvic hæmorrhage.

It ought not to occur during the convalescence after an abortion, or after labor at full term. A friend in the Philadelphia legal profession has told me of his procuring a divorce within two years, for a wife, on account of her husband's cruelty, and a part of that cruelty was driving the nurse out of his wife's room three days after her confinement, in order that he might have intercourse with his wife; moreover, this husband had occupied a high social position, but lost it by his intemperate habits.

I believe, further, it would be better in many, if not in all cases, were there abstinence during pregnancy; but this topic will be considered in a subsequent part of the course.

Another topic relating to married life is the limitation or the preventing having offspring. Injurious consequences generally follow each, for gross violation of nature's law brings punishment. In the great majority of cases it is vastly better to submit to the inevitable.

The oldest method of which we have any knowledge was that practised by Onan. It has been asserted, especially by Mayer and Devay, that if the uterus is not "refreshed and soothed by the spermatic fluid," all manner of uterine diseases, not excluding encephaloid, are liable to come. I honestly believe a teaspoonful of warm water would be just as refreshing and soothing to the uterus, and just as likely to prevent disease. There is, as Bertillon has said, no scientific basis for the assertion that the innocuousness of coition is assured by the projection of the spermatic fluid upon the neck of the uterus.

The *condom* is used by men, not only who are married, to prevent conception, but by the unmarried, to protect from disease. Ricord's brief description of this device should be remembered—a cuirass against pleasure, a cobweb against danger.

The various vaginal injections that are employed immediately after coition, to prevent conception, are too well known to need mention.

Abstinence from intercourse at those periods most favorable to impregnation is a method which is, of course, very uncertain, sometimes disappointing those who put their trust in it.

Finally, abstinence may, in some cases, be imperatively demanded. No man has a right to sacrifice or imperil the life of his consort to purchase for himself a momentary gratification. Again, it would be better if the diseased did not marry, or, having married, if they should have no posterity. The girl, a constant victim of hysteria, or subject to epilepsy, any confirmed epileptic, male or female, the tuberculous man or woman, the exhausted debauchee, have no right to enter matrimony; it is not a hospital or infirmary for the treatment of disease, nor a reformatory institution for the moral leper. More intelligent and just public opinion will do away with such outrages.—*College Clinic.*

SELECTIONS.

CHOOSING ONE'S FATHER.

By ALEXANDER HARVEY, M.D., Consulting Physician to the Aberdeen Royal Infirmary; Emeritus Professor of Materia Medica in the University of Aberdeen, Etc. (*London Medical Times.*)

I. CHOOSING ONE OR OTHER OF TWO POSSIBLE FATHERS; AND BEING ALLOWED BY LAW THE CHOICE OF EITHER.

II. CHOOSING TWO FATHERS; AND BEING ALLOWED BY LAW THE CHOICE OF BOTH.

Strange—nay absurd—these two headings may seem. On reading, however, the details which follow, it will be seen, it is hoped, that there is substantial warrant for them—for the designations given to the cases about to be brought into view—the one, a hypothetical, yet a possible case; the other, one of actual occurrence.

I. Choosing one or other of two possible fathers.

A man dies—is cut off suddenly, in the prime of life and in the full vigor of his powers. He leaves a young widow who has borne him two or more children, the younger or youngest being—say, sixteen months old. Losing no time in unavailing regrets, this young widow straightway marries another man—marries him, we will suppose, within a few days after the death of her former husband. By-and-by she bears a child; and this child is born within such time as that by the laws of nature it may be offspring of either husband. She may herself be unable to say which of the two is its father—quite unable to conjecture even which is the father. Physiologically, it may be impossible to determine the question. On the side of the child there may be nothing in the way of resemblance to either husband to indicate that it was begotten by the one rather than by the other. Moreover, the circumstance of its having the features, or some of the features, of the first husband would not, we know, be decisive as to the paternity.

As to this, it is now known, and indeed it is an accepted fact in physiology, that, by reason of the very intimate, albeit indirect, vascular connection which obtains between the child while in the womb and its mother, and of the interchange of materials, as well effete as nutrient, continually taking place between the two through that medium, the infant may impregnate or inoculate the mother with the peculiarities, normal and abnormal, of its father. And thus it may happen, and often does happen, that in the case of a woman twice married and fruitful by both husbands, the children of the *second* marriage may, in not a few particulars, as regards both physical conformation and mental capacity and disposition, resemble the mother's *first* husband, and bear unequivocal traces of him. Many examples of this general fact are now on record. Let one suffice: One day a young woman residing in Edinburgh called on the late Sir James Simpson in order professionally to consult him. He had never seen her before. Much struck he was, and not a little perplexed, at seeing in her very marked traces of the negro. On inquiry made of her, Sir James learned that her parents were both of them white people—Scotch, in fact; but that her mother, now respectably married to a butcher in Edinburgh, who was her father, had the misfortune, while yet unmarried, and a servant in a gentleman's family, to be seduced by a negro, then also a servant in that family, and to have a child by him; a mulatto.*

This case is adduced simply in illustration of the agency of the child while *in utero* on the subsequent reproductive powers of its mother, and of the influence which that child may thus exert on the children its mother may afterwards bear to a second husband. Beyond this, the case cited has no bearing on the question at issue. If taken, indeed, as bearing on a question of this sort, it would be decisive of the paternity. If in the case of this young woman there had been a question whether she were the offspring of a black or a white father, the circumstance of her not being a mulatto, but having traces only (however well marked) of negro blood, would make it clear that she was the issue of the white.

To revert now to the hypothetical case in hand, and assuming that there are no grounds of any kind, physiological, domestic, or circumstantial, for determining the real paternity of the child thus born into the world, Blackstone rules, that "it is more than ordinarily legitimate," and that on coming to the years of discretion, it may choose which of the fathers it pleases. How important to it this question of choice might be, one may readily imagine.

Whether, in a case otherwise so insoluble, if legally brought in question, and especially if involving the succession to a peerage or to some thousands of broad acres, our lawyers would be content to solve it by a rule as simple as that indicated by Blackstone, may well be doubted.

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* See a series of papers by the author "On the *Fœtus-in-Utero* as inoculating the Maternal with the peculiarities of the Paternal Organism; and on the influence thereby exerted by the Male on the constitution and the reproductive powers of the Female." *Edinburgh Medical Journal* for 1849-50; also an Essay, by him, on "*A Remarkable Effect of Cross-breeding.*" Blackwood & Sons; Ed., 1851.

II. Choosing two fathers, and being allowed by law the free choice, not of either, but of both.

Some seven-and-twenty years ago, or thereabout, a case was before the courts at Westminster, and was eventually carried to the House of Lords, which very fairly warrants this other heading. A gentleman, who believed himself childless, and had no relatives he knew of or cared for, bequeathed, by will, a sum of over one hundred thousand pounds to the town he was born in—a town not a hundred miles distant from London—in order to the founding therein of an institute for promotion of art, science and literature.

The will, however, was not allowed to go unchallenged. A female, who had always been regarded, and had regarded herself, as the child of her mother's second husband, and who, as such, had long ago come into the possession of a handsome fortune, now stepped into court and affirmed that she was the lawful child of her mother's first husband. The testator was this first husband. He had been married to the claimant's mother; but just after, or shortly after or before the claimant's birth, he had been divorced from her—divorced in due form, yet not with all the requisite legal formalities.

This defect, or something arising out of it, was, I believe, what gave the claimant a *locus standi* in disputing the will. It was, as I have said, because the testator believed himself childless and heirless that he devised his estate in the way he did; and peradventure, the expression in his will of that belief as a guiding motive with him in the disposing of his estate may, for aught I know, or can now remember, have given strength to her position. Be this as it might —apart from her—the testator had no relatives that he knew of; and had he died intestate, the crown was understood to be *ultimus hæres.* As such, it watched the case in its progress through the several courts into which from time to time it passed. As we have seen, the claimant had never before considered herself the testator's child, neither had her mother, nor anyone else; and, on the presumption of her being the issue of her mother's second husband, she had already inherited an ample fortune. I have no recollection now of the pleadings in the several courts, or of the decisions pronounced; it will suffice to state that the case passed on to the House of Lords, and that, on behalf of the party intended by the will to be benefited, the services of the late Lord Westbury—then Attorney-General—were secured, with a retaining fee of eight hundred guineas.

Fortunately, or unfortunately, on the eve of its being called in the Lords, the case was settled by compromise, without the question of paternity being there raised and determined. The town thought it better to get something rather than run the risk of losing all. And so it came about that the claimant was allowed—whether by my Lords, or without their leave, I cannot say, but with the consent of the Crown—to take out of the estate, or rather, out of what now remained of it, as the child of the testator, a sum little short of twenty thousand pounds. The amount that eventually came to the town for the purposes of the institute, dwindled down from about one hundred and five thousand pounds to twenty-five or thirty thousand.

Thus possible is it in law, or by the favor of law, or at least with the concurrence of law, not only to choose one's own father, but to choose and be allowed two, and to derive very substantial benefit from both.

In choosing and being allowed the choice of this father, ought not the claimant to have been called on to renounce the other, and in doing so to disgorge all that she got by him? Her not being required to do this fully justifies, I humbly think, the heading given to this singular case. Nay, ought she not, in honor and in justice, to have herself arranged beforehand that, in the event of her being allowed, whether formally or informally, to be the child of her mother's first husband, and as such to take out of his estate the amount she did, she would hand over to the heir or the heirs-at-law of her mother's second husband, whom once she considered her real father, what she derived from him?

In the account now given of this second case, I stand open to correction in respect of incidental and subordinate particulars; not, however, as regards the substance of it.

P. S.—I have submitted what is written above to the friendly perusal of an able barrister, who has written to me as follows: "The subject is curious, and the interest of it by no means merely abstract. I find your first doctrine is still laid down for law by Blackstone's latest editor, but he observes that that great lawyer, Hargrave, has questioned it. Upon your second doctrine I have some doubt whether you have used technically correct language. I should understand that the child was born after a stage in the divorce proceedings, equivalent to what is now a divorce decree *nisi*, and before the stage which would correspond to decree absolute. If this was so, the man and woman were still at that time husband and wife, according to the judgment of Lord Chancellor Cairns, in Norman *vs.* Villars, in 2 Ex. D. 359; consequently, the child was the daughter, legally, of that man, in accordance with the principle, *pater est quem nuptiæ demonstrant.* In this there would be nothing inconsistent with the fact that the child obtained property as the supposed child of some one else; *e. g.*, if the second man gave her a legacy upon the ground of a mistaken belief that she was his daughter, her title to the legacy would be good, although the belief were proved to be mistaken, unless it were proved that the belief was produced by fraud on her part. This is the rule laid down by Lord Chancellor Cottenham in Rishton *vs.* Cobb, 5 Myl. & Cr. 145.

THE SUBCUTANEOUS INJECTION OF MORPHIA. By C. EGERTON JENNINGS, L.R.C.P. Lond., Assistant Demonstrator of Anatomy in the University of Durham College of Medicine.

BARTHOLOW writes with much earnestness on the superiority of extemporaneous over permanent solutions of the alkaloids for hypodermatic medication, and he adduces a powerful argument against those of the latter character—viz.: their rapid tendency to deteriorate from the development of the penicillium, which grows partly at the expense of the alkaloids, and hence, whilst such solutions increase in turbidity they decline in power. But there is a still more urgent reason against the employment of permanent solutions of morphia. Everyone is aware that apomorphia, which is a speedy emetic, even in minute doses, differs only in formula from morphia in containing a molecule less of H_2O, and whilst many practitioners have been disagreeably surprised by the prompt emesis consequent on the subcutaneous injection of "morphia," few actually realize the fact that morphia, kept in solution for some weeks, decomposes and yields apomorphia. In order to prove chemically the point at issue, which is unfortunately every day being illustrated physiologically, I have, with the kind assistance of Professor Bedson, recently conducted a series of experiments on various preparations of morphia, apomorphia, and their salts. Nitric acid and perchloride of iron, excellent reagents though they be for discriminating between morphia and apomorphia when separate, are quite valueless for detecting traces of the one when mixed with a comparatively large quantity of the other. Solutions, even the most dilute, of apomorphia and its salts, on being boiled with excess of caustic potash, oxidize rapidly and turn brown, whilst solutions of morphia do not; and this appears to be the crucial test for traces of apomorphia in the presence of morphia. Less than 1-400th of a grain of apomorphia can be detected by this method, and the examination of solutions of morphia, of ages ranging between two months and two years, has demonstrated apomorphia in all, the impurity existing in relatively larger quantity in the older and more discolored specimens, which are notoriously those especially prone to excite vomiting, and therefore certainly unfit for subcutaneous administration. The practical outcome is obvious. In hospital practice, where the consumption of morphia is large, "permanent" solutions may be used freely, since they are in reality "extemporaneous." But in private practice the case is different. Here hypodermatic medication is often not resorted to for weeks together, and the use of extemporaneous solutions is loudly called for. On this consideration I have obtained samples of sulphate and bimeconate of morphia, in the form of Wyeth's compressed tablets, prepared about three months ago. None of the solutions of these tablets, on being boiled with caustic potash, and subsequently agitated with air, turned brown.

CONVULSIONS IN CHILDREN. By W. T. PLANT, M.D.

As likely as not your first patient will be a baby in a fit. The seizure has been sudden; the appearances are appalling; death is thought to be imminent, and you are sent for because near at hand and likelier to be in than the older and usual family attendant. It may be a new experience for you, and in dismay you ask yourself what you shall do. I will tell you.

In the first place, go! "Stand not on the order of your going, but go at once!" Indeed, the summons is so urgent that you can hardly do otherwise. And as you go you may get comfort from the thought that quite likely the fit will be over, and the child asleep by the time you arrive, and also that a convulsion does not very often end fatally.

We will suppose that the fit is not over, and that you find the little one in such a condition as I shall now describe. It is lying, perhaps, in a small bedroom. The ladies of the block or neighborhood, as many as can get in, are there, consternation in their faces and pity in their hearts, all anxious to help if they only knew what to do. The patient is really in a pitiable state. The whole body is in violent uncontrolled action. The facial muscles are twitching, giving to the features the most frightful expressions. The mouth distorted; and often the lips and chin are covered with bloody foam. The eye-balls are turned up under the lids, or to one side, or are rapidly jerked this way and that. The lingual muscles take part in the general mélèe and frequently the tongue is severely lacerated by the teeth. The head is drawn down to one side by a succession of spiteful jerks. Generally the face is livid from conjestion; exceptionally it is pale. The arms and legs are in ceaseless convulsive movement. The forearms are rapidly bent and extended on the arms; there are alternate movements of incomplete pronation and supination, and the limbs are twisted and drawn into various awkward and grotesque shapes. Unsually, the legs are less roughly dealt with than the arms.

The respiration is hurried and superficial; in some cases it is quite suspended for a time, owing to rigid spasms of the thoracic muscles. This is a chief danger of fits in young infants—fixation of the respiratory muscles. Older children almost always recover their breath in time. Often there is a guttural noise that sounds as if the patient was in great distress.

If you can get your ear over the heart you will probably find it in tumultuous action; not wholly because of its share in the convulsion, but chiefly, perhaps, because of the agitation of the body and interference with the circulation. The pulse is variously affected, but I have hardly ever been able to count it owing to the constant movements of the body and the jerking of the muscles.

There is no outcry, or appealing look or other sign of conscious suffering. General and special sensibility are apparently abolished. A copious perspiration bedews the surface.

These are some of the observations that you may make, but you must make them instantly. It is a time for action rather than for clinical research. What shall be done? First, evoke order from confusion. Here are good ladies longing to be of use; give them something to do. Ask one of them to provide a plentiful supply of hot water; and another to look up a bath or wash tub. If the child is in a small room, assign to another the task of carrying it to a larger one and loosening the clothing at the neck and waist; or better, of removing all clothing and wrapping in a flannel blanket. Probably by this time the bath is ready. See that the water is warm enough. It ought to be from 95° to 97° F. Ask one or two of the attendants to place the patient in it, immersing to the neck. Unless the child is very young, it is a good plan to stir a handful of mustard with the water of the bath. If the head is hot and the features dark from congestion, I would at the same time wrap the head with a cloth wrung from ice-water; but I would not do this when the appearances are those of cerebral anæmia. If unable to procure a utensil large enough for the general bath, the feet and legs must be thrust into a pail of hot water with mustard. In most cases you will observe a speedy decline in the violence of the movements, and in a few minutes they will have ceased. There is an almost magical relaxing power in a general hot bath.

The fit being over, the child is to be wrapped in warm flannels and laid in bed. I like Ellis's plan of wringing woolen cloths from the hot mustard water of the bath, and after sprinkling with a little more mustard winding them about each leg and foot. Be careful not to excite too much action in this way.

It is my habit to give a full dose of bromide of potassium, and to repeat it in an hour or less if there are any symptoms of nervousness. From two to five grains may be given to a child of two years. It is often effectual in preventing a return of the trouble.

But sometimes the fit is prolonged, notwithstanding the hot bath, or it gives way only to come again. My next resource would be chloral by the rectum. Do not give too much. From three to six or eight grains in a teaspoonful of starch or mucilage is a safe and usually an effective dose.

If the fit still persists or shows evidence of returning, you will do well to resort to an emetic. To this end you may give, when the child can swallow, from three to five grains of ipecac, or its equivalent of the syrup, repeating in a few minutes if there should be occasion. Independently of its power to empty the stomach of offending matters, an emetic will sometimes put an end to convulsions that have resisted other treatment.

These measures, one or all of them, are almost always effectual, but if, in spite of them, the fits should continue, I would resort to anæsthesia by inhalation; not continuously, but as may be necessary to hold the convulsive movements in check. Remember that for prolonged administration ether is a safer agent than chloroform. Authors have always recommended and do still recommend blood-letting when the face is turgid and the convulsions are strong and the child robust. I believe it to be, in this condition, a reliable and valuable remedy, and I would not hesitate to resort to it if success delayed to follow the means already advised. I can well believe that there may be occasions when a prompt venesection may save a congested brain from irremedible injury.

But at length, by fair means or by foul, the eclamptic condition disappears, and is succeeded by a period of stupor, amounting usually to a heavy slumber. But even in sleep you may frequently notice a jerking of the limbs; sharp flexion of the fingers and toes; twitching of the muscles about the mouth and half-open eyes—appearances that warrant the conclusion that the tendency to convulsions is not yet over.

After the subsidence of the spasms, and while you are modestly receiving the grateful thanks of the mother, and the plaudits of the neighbors, for your efficient treatment and able generalship, you may inquire and speculate as to the cause of the attack. Here you enter a broad field, for convulsions in children result from numerous and widely-differing causes. Anything that irritates or disturbs the nervous system of an infant may plunge it into fits. We are not surprised to find that they attend on structural disease of the great nerve centres. In hydrocephalus and meningitis, both cerebral and cerebro-spinal, you will often meet with them. In fact, I think cerebral hyperæmia is the commonest of causes, and that, as you know, may come from many disorders. Transient fevers from indigestion and taking cold, as well as typhoid fever, pneumonitis, pleuritis, may cause fits through high temperature and active congestion of the brain. Dentition is likewise a fruitful cause, partly through nervous erethism and partly through cerebral congestion. Severe cases of whooping-cough are occasionally attended by convulsions, caused, we may suppose, by a passive congestion of the brain.

If you practice in malarial districts you will observe that in infants the cold stage is often marked by a convulsion rather than a chill.

It is not unusual for the exanthematous diseases to begin in this way. Both scarlet fever and small-pox are sometimes introduced by fits of so violent a character that life is destroyed before any eruption appears. In some of these cases our knowledge of the cause is conjectural rather than certain ; in others it is made certain by the appearance of a characteristic eruption after death. I have also known diphtheria to herald its coming by convulsions. There is no doubt that in such cases the poison of the disease shares with the cerebral hyperæmia in producing the result, for in other instances spasms ensue from deleterious substances circulating in the blood, as after large doses of opium, veratrum-viride, aconite or belladonna.

You may note it as an interesting fact, that cerebral anæmia as well as hyperæmia may be a cause, opposite conditions giving rise to the same symptoms. Large losses of blood and exhausting diarrhœas, that rapidly render the brain anæmic, not seldom lead to convulsions.

Furthermore, you may very often find the cause in an overloaded stomach. One day I was hurriedly called to the Fifth Ward to see a suckling whose father had fed it, in the mother's absence, with hard-boiled eggs. Two terrific fits were the result, but after a vomit it was as well as ever.

Worms, especially the lumbricoid and ascarides, sometimes excite eclamptic spasms, but not nearly so often as the laity think. "Worm fits" is an old phrase that is still used much more frequently than there is any actual warrant for.

Strong emotion is an occasional cause. Many a child has been "scared into fits." Outbursts of passion have had the same effect; sudden injuries also, partly through pain as well as fright.

There have been many instances of nurslings being thrown into spasms through disturbances of the maternal system by anger and inebriety, and the onset of acute diseases as also by the return of the menses.

I must not forget to mention the fact that all serious disorders in children are in their latter stages liable to this symptom. The physician learns to dread late convulsions. They show that the disease has made a profound impression upon the nervous system, and they are very apt to precurse a fatal termination.

I could mention other causes, but I have said enough to convince you that almost any disease or accident may in some children lead to convulsions. And you will be more fortunate than I have been if, on some occasions, with your best efforts you do not fail to ascertain the cause.

The liability to eclampsia—for such is the name often employed to designate convulsions—is not the same at all ages or in all children. I think you will find it most frequent during the second and third years, though many older children are not strangers to it. Many escape altogether, though exposed to the causes that produce it in others. Some children I have known to have a convulsion with the onset of every trifling ailment. A highly sensitive and nervous temperament is favorable to their appearance, and temperaments are inherited; so that eclamptic seizures are common among the children of some families; rare in others.

You will naturally ask if there are any prodromal symptoms—symptoms that herald an approaching attack. Occasionally there are appearances that may give an inkling of what is to happen. Such are twitching of the facial muscles and grinding of the teeth in sleep; waking suddenly in fright; strong flexion of thumbs and fingers; drowsiness in the day and unusual petulance on being disturbed. The smiles or "angel whispers" of sleeping infants are but the contractions of certain facial muscles in response to some irritation of the nervous system. Timely attention to these phenomena may ward off an attack of general convulsions.

But many times there are no premonitory symptoms whatever, and the child leaps at one bound from full health into a terrific fit.

Not all cases are so severe and frightful as the one I have described. The seizure may be so light as to seem scarcely more than a transient nervous perturbation. Sometines only one side of the body is affected; and, indeed, when it is bilateral, one-half is usually more convulsed than the other. Grinding of the teeth, rolling of the eyes and flexion of the digits are but convulsions in miniature.

The fits are variable in number and duration. Often there is but one; sometimes there are many following hard on one another. A single one does not last more than three, or five, or ten minutes as a usual thing; exceptionally for half an hour. In one case that occurred in my practice some years ago, a lusty boy was taken suddenly in the morning and was in strong convulsions, with an occasional remission but no intermissions, for twenty-one hours, when he died. This was one of the cases in which I was entirely unable to ascertain the cause.

Whether light or severe, a convulsion is but a symptom, and your prognosis will always depend on your conviction as to the nature of the cause. If there is progressive cerebral disease there is small ground for hope. If the cause is trivial and transient, as teething or indigestion, the outlook is hopeful however severe the spasms may be. Occurring at the outset of acute febrile diseases, they are not to be regarded as of unfavorable omen, though some rare cases of variola and scarlatina must be excepted; but occurring in the course of and especially near the natural termination of these disorders, the outlook is serious, and experience will teach you to be chary of strongly encouraging words under such circumstances.

There are remote as well as immediate dangers from eclamptic fits. Paralyses of various parts may remain, though these are not usually, I think, permanent. In such cases we may presume that some lesion of the brain, as hæmorrhage, occurs as the result of the convulsion.

Some children are left in a lasting condition of semi-idiocy. In my own practice a promising girl was taken in strong convulsions in the middle of the night. For some time after, they were often repeated, leaving her in a giddy and unbalanced mental state, which time has not improved. In another case, in which the fits were equally without forewarning or apparent cause, the power of speech was for a long time nearly gone. In that respect the patient has improved, but she is still of a spiteful temper, and given to fits of ungovernable passion.

Regarding treatment, I have some things to add to what I told you at the outset. " Forewarned is forearmed." When your attention is asked to an infant that has premonitory symptoms—jerking tendons, fixed thumbs and fingers, half-open eyes, grating teeth, etc., that is your opportunity for forestalling trouble. Give a cathartic as a grain or two of calomel with magnesia, or three grains of hydrargyrum cum creta with castor oil ; give a hot mustard foot-bath, and a dose of bromide or valerian at bedtime, repeating as there may be occasion. If the bromide alone will not control these symptoms, I would combine chloral with it in quantities of from two to five grains.

If you find hot and swelling gums over advancing teeth, use the gum lancet as I shall direct when I talk to you of dentition. I have known great apparent relief from this little operation.

Fits so often result from disturbances of digestion that you will naturally inquire if the child has eaten of improper articles. But whether you find a cause in dietetic errors or not, if the abdomen is tumid, the tongue coated and the breath offensive, you are justified in resorting to purgatives. I know of none better for this condition than those above recommended. One grain, or even a half grain, of calomel well rubbed with sugar frequently acts very happily.

Bearing in mind the possibility of worms as a cause, I am much in the habit of combining santonine in a suitable dose with the above laxative, or giving it with castor oil.

Though not appropriate in most cases, though even harmful in some, there are occasions when opiates are of the utmost service in warding off convulsions. I refer to cases of cerebral anæmia from loss of blood, or profuse diarrhœa, attended with pale features, and, if the child is under one year, with a depressed fontanelle. Severe pain also affords an indication for their use. In a drop of laudanum or its equivalent of paregoric with brandy or bourbon and the hot bath, you will find, I think, your best safeguards.

The diet of children subject to fit should be carefully attended to. It ought to be nourishing, but plain. Milk, bread, oatmeal and potatoes, with lean meat now and then, should be the staples. Occasions of excitement, anger and fright should be avoided. There should be daily exercise out of doors, and a daily cool bath. Attendance on school had better be deferred until the health is completely re-established.—*Archives of Pediatrics.*

Recent Methods of Treating Cold Abscesses.—Professor Billroth, of Vienna, writing on the above subject (*Medical Press and Circular*, January 16, 1884) says : When we turn our thoughts to a cold abscess we must first of all place before ourselves the questions, Why is not the contained fluid absorbed? and why are we compelled either to await its opening or open it ourselves?

Exudations that arise in the course of acute inflammations, or transitory disturbances of circulation, are indeed usually absorbed ; if the general condition of the body is in other ways normal, the absorption of the fluid is the ordinary process. If you have a clear conception of the arrangement of the lymphatic vascular system you will comprehend this, for the lymphatic vascular system sucks up all these exudation products like a sponge, and carries them all back into the blood channels. Under what conditions, then, does this resorption fail to take place? 1. You may say first that absence of open lymph vessels is a very important cause, and that is just the case with the capsule that in the course of time forms around these abscesses. The walls of the veins can, it is true, take up some of the fluid, but it is the open lymph vessels that are most concerned in such absorption. But even when such open lymph courses are present, that may become closed under certain circumstances, as by an exudation that becomes clotted, in which fibrine forms quickly, and in which the clotting may be continued into the lymph vessels, or into the interstitial structural interspaces. This is the case to a great extent in croupous and diphtheritic exudations. 2. The resorption is dependent on the degree of concentration of the fluid. If the fluid is to be resorbed, its concentration must be less than that of the blood. That is not the case in cold abscesses. Moreover, the various regions of the body show great differences in their power of resorption; the pelvis is the most favorable for resorption; the most unfavorable is the pleural cavity. How can we overcome these difficulties therapeutically? 1. The first method would be by the removal of the fluid, but experience teaches that the fluid may be removed for the moment, but that the exudative property of the structure does not cease; on the contrary, the cavity refills with uncommon rapidity with pus, this refilling being principally caused by the fact that by the removal of the fluid the vessels in the abscess walls are subjected to a greatly reduced pressure. 2. Is it possible by certain irritating agents to excite a greater vascularity in the walls of the abscess? With this object in view tincture of iodine has been injected, for the purpose of exciting an inflammation, whereby an exudation is certainly set up, but which, in consequence of the higher vascularity thus induced, is readily absorbed, with the result that the cavity shrinks up. 3. This method was succeeded by the opening of the abscess under strict antiseptic precautions. Not only is the pus evacuated, but the abscess cavity is carefully scraped with the sharp spoon, after which an antiseptic dressing is applied. In this way the walls of the abscess, which consist of a mass of soft granulations, are removed as far as the healthy tissues, whereby, by means of a light compress, healing by first intention has been achieved. Indeed, by this method good results have been obtained in many cases, but it is one that requires to be carried out with great accuracy. Since the introduction of iodoform we have strewn the scraped-out cavity with iodoform in powder, and brought the edges together with the exception of the openings left for drainage. By means of iodoform, sepsis is to a great extent avoided, and under certain circumstances granulations may spring up under which healing rapidly takes place. 4. Quite recently we have attempted another method, namely, puncture of the abscess, and subsequent injection of an emulsion of iodoform, consisting of ten parts of iodoform to one hundred parts of glycerine. The emulsion must be well shaken up before using, and then, according to the size of the abscess, twenty to thirty grammes are to be injected. In most of the cases in which this method has been attempted the course has been free from reaction, only moderate swelling has taken place, and but little pain has been present. This, however, would only indicate that the treatment has done no harm; it is also desirable that it should bring about the shrinking of the abscess, and that the fluid remaining in the cavity should be absorbed. As a matter of fact, the results in some cases were exceedingly favorable, but further experience is necessary to show whether the iodoform emulsion is still to be continued. Generally speaking, I should advise you, unless there should be some reason for it, not to open the cold abscess, but to allow it to open spontaneously, especially if you cannot watch over your patients closely. You can then calculate with certainty that the pus will escape without fever and without further reaction, whilst at the same time the entrance of air is completely avoided. In such cases the mechanical relations are extremely favorable, even wonderfully so, without our being able to give an explanation of them; for it happens, for example, that an abscess bursts into the bladder or rectum, and in such cases I have never seen urine or intestinal gases enter the abscess cavity. Under strict antiseptic precautions, and under your constant supervision, you may open the abscess, especially if you suspect with some certainty that you can easily reach the bone from which the abscess springs, or if it causes by its great expansion compression of the neighboring structures, and in consequence of this gives rise to various difficulties.

ORIGINAL CORRESPONDENCE.

To the Editor of Gaillard's Medical Journal:

15 Rue Caumartin, Paris, May 31, 1884.

Dear Doctor: The oldest of the physicians of Paris is Ricord, with whose name and works the medical world has so long been familiar. He has already passed his eightieth year, and yet he devotes himself persistently to professional labor, with a heart as buoyant and a brain as clear as in the prime of manhood.

Although still wedded to his specialty, he is emphatically a great physician, and as a consultant he has few equals and no superiors. Having frequently had occasion to avail myself of his counsel and assistance, I have invariably been impressed by his skill as a diagnostician, his profound and comprehensive knowledge of medicine, and the richness and variety of his supply of remedial agents, together with the urbanity of his manner and the kindness of his heart.

He is, as you know, a native of Maryland, and his attachment to the country of his birth, and his regard for his compatriots, have undergone no abatement during the long and eventful years which have elapsed since, as a youth of nineteen, he came abroad to seek and to find fame and fortune in the land of his ancestors.

I must confess that when I have seen him on public occasions, glittering with the decorations with which he has been honored for his professional triumphs, and the object of universal respect and homage, I have felt proud to recognize him as an American, and more in love than ever with my native land.

I once asked him to explain to me "how it was that he had managed to survive so many of his contemporaries, and to preserve his health and his faculties so marvelously." He smiled blandly, and answered: "By commencing life with a system of my own, and acting on it always; by never permitting myself to get fatigued and broken down. I have made it an invariable rule to take two days of holiday out of every week and to spend them at my country seat, in the fresh air, and out of the reach of patients and professional responsibilities." In a word, instead of taking one long vacation yearly, as many of our physicians do to recuperate their already wasted energies, he acts upon the principle that "an ounce of prevention is worth a pound of cure," and precludes the possibility of becoming prostrated by taking fifty-two short vacations during the year. The result demonstrates the wisdom of this "system of prevention," for, notwithstanding his advanced age, he is as actively engaged in professional work as when I knew him a quarter of a century ago. He is, indeed, a wonderful old man; an honor equally to the country of his birth and of his adoption; a shining light in the firmament of medical science, and an ornament to society at large, which he still takes great delight in, and from whose votaries he never fails to receive an overflowing measure of respect and adulation.

It is true that the advancing tide of medical knowledge has swept away the grand theories respecting syphilis with which he once astonished the world, and made a name for himself in its history; but it is equally certain that he did make great advances in this special field of research, and that his labors have opened up the way to our present more accurate views respecting the essential nature and the proper treatment of the disease to which he has consecrated his life.

If the dogmas which he promulgated were not the absolute truth, which he searched for so ardently, they were most closely related to it —they were what the "outer reef" is to the "mainland," an evidence of its proximity, and a guide to its attainment.

At any rate, they have carried the name of Ricord in triumph around the world, and have secured for it a place in the annals of medicine which will command the attention and respect of the profession while Æsculapius has a temple upon the earth.

As already indicated, I met this remarkable man for the first time nearly thirty years ago, when, as *Chirurgien du Midi*, he occupied the most conspicuous position known to the profession of France, and, by a singular coincidence, I made his acquaintance and that of Velpeau on the same day. They have, consequently, ever since been intimately associated in my mind, and this reference to the one so vividly recalls the other that I cannot refrain from a brief allusion to him, even if the snows of twenty-five winters have melted on his tomb.

We are prone to form ideals of those whose books we read, and of whom we hear much, and I naturally expected to find in Velpeau the most illustrious surgeon of his generation—a man cast in the "heroic mould." You can, therefore, understand my disappointment when I saw him enter the arena at La Charité, and perceived that he was a bent, wizen-faced, watery-eyed, desiccated, diminutive old man, with so indistinct an utterance, and so rapid an enunciation as to make it extremely difficult to understand a word that he said.

I was about to give expression to my disappointment in a hasty retreat from the lecture room, when he took a knife in his hand, and I determined to wait and witness the operation which he proposed to perform. In an instant a complete change came over him ; the contact of the instrument seemed to send an electric shock through his frame, unsealing the fountains of vitality, and transforming him into a new being. The stoop disappeared from his shoulders, and he stood as erect and stately as a soldier on parade. His lack-lustre eyes regained their normal brilliancy, and gleamed like those of an eagle. His wrinkled countenance expanded, lighted up, and assumed the hue and aspect of that of vigorous manhood. And the whole man seemed to be infused, as if by magic, with fresh life, and energy, and will, until he looked in all respects the hero and the surgeon that he was, and that the world still acknowledges him to have been.

From that time forward I made it a point never to miss one of his clinics, and I always realized that I was in the presence of a veritable master—of one whose genius threw a spell of fascination over all that he said and did, and made an impression upon my mind so profound and permanent that neither the lapse of time nor life's vicissitudes can ever efface a trace of it.

This allusion to these illustrious men naturally recalls the great American surgeon over whose death-bed the profession has just hung in sorrow, and whose name is emphatically one of the "immortal few"

"Which were not born to die."

It was my good fortune to know Professor Gross intimately for many years, and I can say without hesitation that a nobler specimen of manhood and a more splendid realization of the ideal surgeon, in the highest and most comprehensive signification of the term, has never been produced in any age or country. Greatness was written upon his massive brow, illustrated in his manly frame, and echoed in his eloquent voice ; and if ever a man was made after a heroic model and given the impress of genius, constructed in such a manner as to make it patent that he was of a higher and purer type than common humanity, it was he who was so long honored as the "Nestor of American Medicine." and upon whose bier the physicians of every civilized country have laid the tribute of their highest homage and their deepest sympathy. He needs no monument to commemorate his life or to perpetuate his memory, for he has left a record of good deeds and grand achievements which will be appreciated and honored to the remotest generations. Idolized as he was by grateful patients, appreciative confrères and admiring friends, he has gone to receive a higher and better reward at the hands of that Good Being whose faithful servant he was, and whose moral grandeur he seemed especially chosen to typify and illustrate. Peace to his ashes, for they are all that remains of one upon whom nature lavished her treasures of virtue, loyalty, genius, oratorý, and all that adorns and dignifies the human character.

France, likewise, is in mourning, for Wurtz has been "called from his labors." An Alsatian by birth, he came to Paris in 1845 to seek his fortune, and he succeeded to the extent of becoming a professor in the Medical Faculty, chief of the Chemical Department in the School of Arts and Manufactures, a member of the Academy of Medicine, a member of the Institute of France, a grand commander of the Legion of Honor, a "life senator," dean of the faculty, and a member of the principal learned society of the world.

The bare facts of having defeated Robin and Reginault in a *concours* for the position of "first assistant" in the Laboratory of the Faculty of Paris, and of having filled in succession the chairs occupied by Dumas, Orfila and Magendie, are conclusive evidences of his great acquirements as a chemist, and of the estimation in which he was held by contemporaries.

As a teacher, he was animated, impressive and even eloquent, while he had the rare faculty of placing himself *en rapport* with his classes, and of inspiring them with something of his own zeal and enthusiasm. Indeed, it was because of his great popularity with the students, and his consequent influence over them, that he was elected Dean of the Faculty in the memorable disturbances of 1865, when Jardien was compelled to resign and the doors of the lecture-rooms were barricaded for many successive days. In this position he greatly distinguished himself, having put down the rebellion and restored amicable relations between the contending parties, and having succeeded in adding three new chairs to the faculty, in creating a chemical laboratory for the use of the students themselves, and in elaborating a plan for the consummation of clinical study by the establishment of laboratories in connection with each of the practical branches embraced in the curriculum.

He stood, in fact, at the very head of French science, without a peer, and with scarcely a competitor, while his private life was singularly free from stain and blemish. The death of such a man must necessarily be severely felt at this special epoch in the history of the country; for great men have not been its staple product of late, and there are many other things which France can better afford to lose than her illustrious sons.

Wurtz had only recently been made a "life senator," an office which was "thrust upon him"—not because of his being a politician, in the ordinary acceptation of that term, but in conformity with the policy which now prevails of introducing representative men of all professions into the National Assembly, and of thus permanently providing for those who have greatly distinguished themselves in any vocation.

How would this system work in America? I would, at least, like to see the experiment tried by the election to the Senate of such men as Flint, Sayre, Metcalf, Polk, Agnew, Thomas, Wormley, Wood, Morris, Chancellor, Toner, Thompson, Gray, McGuire, Davis, Owen, Campbell, Logan, Kinloch, Bemiss, *et id genus omne.* Surely, the health of "the body politic" would be improved, and its chances of longevity multiplied by the admixture of the pure blood to be derived from these honored sources, even if it staggers a little *au commencement*, under the unaccustomed weight of the brain matter which it is thus called upon to carry.

Do not by any means understand me as seriously encouraging a devotion to politics. On the contrary, I would take this occasion to warn physicians in the most emphatic manner against their seductive, but most pernicious, influences. "No man can serve two masters," and the proper pursuit of medicine demands of every one who adheres to it the exclusive dedication of all his faculties—the absolute and unconditional consecration of himself to its paramount obligations and responsibilities.

He who enters the chamber of sickness, to contest the field with pain and death, with a mind absorbed in any other consideration than the welfare of his patient, is a traitor alike to science and to humanity. The political doctor is only half a physican, and *ipso facto* the inferior of nis competitors and a fraud upon the community, which soon gauges his calibre, and "lets him slide" accordingly. When a doctor enters the political arena he should remain there for the rest of his days, as a matter of justice to himself and the public.

Of course, every man is entitled to his "opinions," and he who professes to have none, or refuses to act upon them on proper occasions, is either a sycophant or a coward, and ready to barter his soul for patronage or for safety. But a manly independence in this regard, and playing the *role* of the politician are two things as different as the sunshine and the darkness, and he who confounds them had better take down his "shingle" and "go West," or seek some more appropriate vocation in life.

Speaking of politics reminds me that in the municipal elections, which were concluded last Sunday, a considerable proportion of "the returned" are medical men. In Paris, every broken-down and played-out physician goes either into the City Council, or into the ranks of Homœopathy, and spends the remainder of his days in legislating *pro bono publico*, or in helping to populate Père La Chaise dosometrically.

Sic transit gloria mundi, to put it classically, and make amends to the new-born "City Fathers."

It is a singular circumstance that the ablest journalist and politician of France, at the present moment, is a physician, or rather a graduate of the school of medicine.

The great radical leader here—the "coming man" of the advanced and advancing "Left"—is Clémenceau, who took his degree in 1865, and is still registered as a medical practitioner. He is, however, only nominally connected with the profession, having virtually abandoned it, like a sensible man, when he entered the ranks of that vocation for which he seems so specially adapted, both by temperament and talents.

Having always held republican sentiments, he found France too warm a place for him in the later days of the Empire, and he spent some years in America, where he became intimate with the Flints, and secured for himself a "better half"—a highly accomplished and charming New England woman. After the establishment of the Republic, he returned to his native shores, and entered public life as a member of that group of the Assembly which dreams of a political Utopia under the ægis of an absolutely "pure democracy." At the same time he established an organ under the name of *La Justice*, which is devoted to the advocacy of the most extreme republican views, and, notably, to a revision of the Constitution, having for its inspiration a plan to abolish the Senate, and to establish a direct and unfettered Government of the people.

Personally, Clémenceau is a fine specimen of manhood, with a straight sinewy and graceful figure ; a large, round and combative head ; a broad and self-asserting forehead ; a straight and strong nose, guarded on either side by a reckless gray eye, which, with the heavy brow overhanging it, looks like a battery on the point of unmasking itself ; cheek bones so prominent as to give a decided Indian aspect to his countenance ; and lips which seemingly contradict each other in their revelations of character, as the upper, notwithstanding the heavy moustache which reinforces it, is thin and taut, and the lower is thick and superabundant. In fact, the most casual observer could not fail to perceive that he is no ordinary man, that he was made to play a conspicuous *role* in life, that he is, by nature and organization, a teacher and a leader of men.

A reference to his career will amply confirm this diagnosis of his character. At a single bound the obscure physician of Montmartre took a position in the Assembly second only to that of Gambetta himself. Before the conclusion of his first session as a *deputé* he had installed himself as the acknowledged and worshiped leader of his "group ;" he had imposed his special views of governmental policy upon the party with which he acted, and made them its creed and rallying cry ; he had excited the eternal hatred of the Reactionists by interposing as a vast wall between them and their dreams of monarchical regeneration ; and he had reduced the list of possible presidents to a "corporal's guard," with his own name at the head of it. In a word, he had taught the world that though the experiment of self-government in France might not be prolific of true patriots and real statesmen, it had produced one who, at least in the fervor of his convictions and the courage and ability to maintain them, compared favorably with the best and the greatest that any other system or country had seen. Clémenceau is a natural orator. Commencing always slowly and with hesitancy of manner, he gains courage and inspiration as he proceeds, until his discourse swells into a magnificent stream of the closest logic, the aptest metaphors, the strongest words, the bitterest irony, the fiercest invective, the deepest pathos and the most impassioned eloquence, sweeping everything before it with resistless impetus, and leaving only a wilderness of ruins in its track. And yet, unlike his countrymen generally, he indulges in no gesticulation, or contortion of feature or movement of body ; but stands "straight up," and, without apparent effort or undue excitement, lets the current of thought swell forth in copious and continuous tides, until nature exhausts itself and his work is done. It is as if the great pyramid, in the plenitude of its majesty and grandeur and stability, had found a voice and had spoken. Having undertaken to write letters for a monthly journal, I have deemed it inexpedient to give you the current medical news of Paris, as I would necessarily be anticipated in that regard by the weeklies of New York.

You will, therefore, pardon me, I am sure, for indulging in such pen-and-ink sketches of the prominent men of France as I have already attempted, and propose to continue in subsequent letters.

I am very truly yours, etc.,

EDWARD WARREN (Bey), M.D., C.M.

PEORIA, ILL., June, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: While in the East, during the fall of 1882, my attention was called to some yellow perch that had been caught in Lake Erie, and sold in the city market. Throughout the muscular tissues, especially along the spine, were white spots from one to two millimetres in diameter. I separated several from the tissues, and, picking them apart with needles, found in each one a spindle-shaped worm ; their respective lengths varied from two to six millimetres. I had no opportunity for thorough microscopical investigation, but in one of the sacs placed under the objective, the worm could be seen to lie coiled. I took several specimens to a medical friend who had passed several years at Vienna, but he was unable to throw any light on the matter. Though obviously large for trichina spiralis they occurred in the same manner. Would be pleased to have some information on the subject. Respectfully,

F. C. T.

[An official report upon a fish-worm epidemic at Madras has been made by Deputy Surgeon-General Furnell, in which a large number of parasites are described as occurring in fish, but of which only five, viz., the fasciola hepatica, distoma crassum, and distoma sinense, among the trematodes, the eustrongylus gigans and ascaris lumbricoides amongst nematodes—are also to be found in man. The last-named worm is very common in India, especially on the sea-board, and its prevalence is attributed to the habit of the lower classes of cleaning fish near their wells and water supplies. The other common human parasites in India, viz., the guinea-worm, tapeworm, and filaria sanguinis hominis, do not occur in fish; whilst the bothriocephalus latus, which is commonly attributable to fish, is not met with in India. Dr. Furnell concludes his report by pointing out that the reason why the entozoa are not more frequently transferred to mankind, especially when, as in India, fish-eating is so common, may be explained by the fact that many of the parasites occur in the viscera of the fish, which are not consumed, and that cooking destroys the parasites, and perhaps because the piscine parasites "do not find man a congenial territory for their existence."—Ed.]

WHITESVILLE, TENN., June 10, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: There has been no invention of recent date the benefit of which is so universally and continually felt as that of the M. T. capsule. Millions, no doubt, are daily used to cover nauseous doses of medicines. In view of this, I feel that we should honor the inventor, whether living or dead. Who is he? Let him step forward and file his claim. If he is not living let his executor speak in his stead. We must collect a fund to raise a monument over him. I feel that every physician in the world will be interested in this inquiry. A. P. WADDELL, M.D.

PORTSMOUTH, N. H., June, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: I thank you for entering my very crude remarks about scale of fees, &c., but hope you made the matter clearer than I did. My idea was the application of a business principle to the business part of our professional work. It is human nature to pay as low a price as possible for a good article, whether it be butter or advice; and when it becomes a question of "cash," one dollar, and "trust," one dollar fifty, it is astonishing how many parsimonious and poor people prefer the cash to the trust system. When it is absolutely necessary to trust, then $1.50 at six months is easier to pay than $2 at the end of a year. There is a business and an æsthetic side to our profession, and in lowering the one we lower the other in public estimation. As we value ourselves and our services, so are we valued in this very practical age and country. We are largely the victims of our own short-sightedness, of our overcrowded vocation, and of the class of men who compose the majority of our profession. The voter must cleanse the political Augean stable, and the doctor must elevate his profession. To change the low tone of politics we must educate the voter; and to change the low tone of the medical profession we must educate its members. A collegiate, or, at the very least, a first-class academic education, should be required of every candidate for the medical profession. A responsible and disinterested Board should make these examinations, and no one should be allowed to enter as pupil in a physician's office, nor matriculate at a medical college, without a certificate of academical proficiency.. Then let the professional course be three years, or four years—didactic or clinical, or both combined—at any medical school, and then without fear or favor let all candidates for a degree in physic appear before a Supreme Medical Council of the United States, and if found qualified receive a diploma of international value. This plan would give us a body of educated physicians who would command the respect of the world, and would understand the true value of professional unity and medical ethics. I enclose a few remarks of mine germane to this subject, and hope you will continue to raise your voice against the examination of medical colleges for degrees, and the grinding out process of our medical factories. Yours faithfully,

J. C. C., M.D.

JOHNSTON, S. C., June, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: At 10 A.M., on May 7th, I was called to see an infant four days old, and found it with following symptoms: Pulse irregular and very weak, skin cyanotic, Cheyne-Stokes respiration, surface cold and clammy; pupils contracted, etc. Upon inquiry I learned that about 8 P.M., previous evening, the mother, imagining that the baby, on account of slight restlessness, was threatened with colic, had given it 8 drops of Winslow's soothing syrup and 2 drops of paregoric. The baby died half an hour after I saw it. Respectfully, etc.,

J. E. COWLES.

SHAWSVILLE, Va., June, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: A case that I attended a few months ago was so singular in some respects that I think it merits publication, I having never met with a similar one in my reading.

I was called to see a woman one morning, whom the messenger reported as having had "hæmorrhages" the night before, and he supposed that she either had, or was about to have, a miscarriage. On arriving at the house, I found the woman in labor, having the pains regularly, the os pretty well dilated. She had evidently underestimated the length of time that she had been pregnant; and the night before, when the hæmorrhage (which had not been great in amount) commenced, she thought that it would be a simple miscarriage. The event proved that it was a premature labor. The child was very small, and met with no obstruction in its descent. I sat down to wait further developments, and presently she had a pain of greater intensity than she had had before, and the child was born. Child, placenta, and the bag of water, unbroken, came down all together. I removed them from the bed, and could see that the child was living, as it moved its legs and arms. On puncturing the membrane it breathed and cried. I did not take any measurements of it, but it was very small, and did not appear to have much vitality. It lived, however, until next morning, fourteen or fifteen hours after its birth. The whole placenta and membranes peeled out from the uterus perfectly. The uterus contracted properly, and there was no hæmorrhage, either from the placental site or from the raw surface of the placenta itself. I know that sometimes a dead fœtus is born with the membranes intact, but never knew of a living child. Yours, etc.,

W. R. C., M.D.

[Delivery with Membranes Unruptured.—Van Peyma relates another case with somewhat unusual features. Was called to attend Mrs. B. in the fourth labor; previous parturitions normal. On arriving at the house and making an examination, discovered protruding from the vulva a smooth amniotic sac containing the fœtus. Upon applying slight traction, by means of a towel wrapped around the mass, it was easily removed. The uterus immediately contracted firmly, and so continued. Upon examination of the sac and contents, it was found to be the entire unruptured amniotic sac containing the dead fœtus as well as placenta, etc. The contents were easily recognized on account of the transparency of the membranes. The mother's last menstruation occurred more than six months previous, and the fœtus had the appearance of having passed that age. Although similar cases have been reported, yet the literature upon the subject is exceedingly scanty and the cases very rare.—Ed.]

Testing Cheap Coffee.--Having tasted and secured a number of samples of the "coffee" sold in the cheap restaurants throughout the city, chiefly on the east side, and being satisfied that the mixture not only was not coffee but a compound which it was dangerous to drink, Dr. Cyrus Edson, chief of the second division of the Health Board, made an analysis of the samples he had obtained. It showed that the stuff which so many laboring men and others are compelled, through lack of means, to drink, consisted of a mixture of powdered licorice paste of the poorest quality, a large proportion of dried blood, a little ground chicory, and a much smaller amount of ground coffee, which, however, is of the cheapest and worst kind procurable. This compound is sold as "pure, good coffee," at 5 cents a cup, including sugar and milk sufficient to make it at all palatable. Some of the "restaurants" of the worst grade keep open all night after a certain hour for the exclusive sale of this poisonous fluid to car drivers and conductors who have just about time enough to swallow a cupful, but not sufficient time to eat anything they could buy at the same place.

SANITARY DEPARTMENT.

VENTILATION. By JUSTIN M. HULL, M.D., Member of the State Board of Health, and Chairman of the Standing Committee on Ventilation and Heating.*

In reply to the query, What is to be considered the standard of purity of air in dwellings, Dr. de Chaumont says: "We cannot demand that the air of an inhabited room shall be absolutely pure as the outside air. In every dwelling there will be some impurity of air. The quantity of air supplied to every inhabited room should be great enough to remove all sensible impurity, so that a person coming from the external air would perceive no trace of odor, or difference between the room and the outside air in point of freshness. Following this is the amount of pure external air which should pass through the air of a room vitiated by respiration per head per hour."

To answer this, Dr. de Chaumont, as the result of numerous experiments, says that per man, for each 100 cubic feet of space, 2,900 cubic feet of fresh air is required the first hour, and 3,000 cubic feet each hour thereafter. If a man is engaged in active work he should have more. If he weighs 150 pounds he should have from 4,500 to 8,600 of cubic feet of fresh air every hour.

Air is also vitiated by the combustion of coal gas. Walport estimates that for every cubic foot of gas 1,800 cubic feet of air must be supplied to dilute the product of combustion. A cubic foot of coal gas will produce nearly two cubic feet of carbonic acid. A common three-foot gas-burner, burning four hours, will require 21,600 cubic feet of pure air.

NATURAL VENTILATION.

As to the methods of natural ventilation there are many devices. The air must be taken from a pure source. As a rule, says Parkes, "the inlet tubes should be short and so constructed as to be easily cleaned, otherwise dust lodges in them and the air becomes impure. They should be numerous and small, say from forty-eight to sixty inches superficial, so that the air may be properly distributed. They should be conical or trumpet shaped where they enter the room, as the air spreads out like a fan.

If placed above the heads of persons, they should turn upward, to lessen the risk of down draft. Externally, they should be protected from the wind by an overhanging hood or shelf. Valves may be placed in them to check too rapid change of air in cold weather. They should be distributed through a room so as to insure proper mixture of air. They should not be placed too near an outlet. If air cannot be warmed, it must not be admitted at the bottom of a room, but about nine or ten feet from the floor, and be directed toward the ceiling so that it may pass up and then fall and mix gradually with the air of the room.

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*Extracts from the Second Biennial Report of the State Board of Health of the State of Iowa, 1883. The Editor of this journal is indebted to Dr. R. J. Farquharson, Secretary of the Board, for the valuable illustrations herein presented.

Outlet Pipes.—The place for outlet pipes is one of important consideration. If there is no means of heating the air passing through them, they should be placed at the highest point of the room, enclosed as far as possible within walls, so as to prevent the air being cooled. They should be straight, with perfectly smooth internal surfaces so the friction may be reduced to the minimum. They may be round or square. They must be covered above by some apparatus (cowl, hexagon tube, etc.) which may aid the aspirating power of the tube and prevent the passage of rain into the shaft. The causes of downward draught in outlet tubes are, wind which forces down the air, rain gets in, evaporates and cools the air so it becomes heavier than the air in the room, or the air becomes too much cooled by passage through an exposed tube, so it cannot overcome the weight of the superincumbent atmosphere; or another outlet shaft with greater discharge may reverse the current.

Should down draught occur, flanges may be placed a little distant below the tubes so as to throw the air upward before it mixes with the air of the room. If there are several outlet tubes in a room they should all commence at the same distance from the floor, be of the same height (or the discharge will be unequal), and have the same exposure to the sun and wind.

Simple ridge openings may be used in one-story buildings with slanting roofs; they ventilate thoroughly, but snow sometimes drifts in. The discharge of outlets is much more certain and constant if the air be warmed. The chimney with open fire is an excellent outlet—so good that in dwelling-houses, if there are proper inlets, no other outlet need be made. Every room and dwelling-house should have an open fire-place. When rooms are large and more crowded, other outlets are needed. The heat of the fire in such rooms may be utilized by surrounding the smoke flues with foul-air shafts.

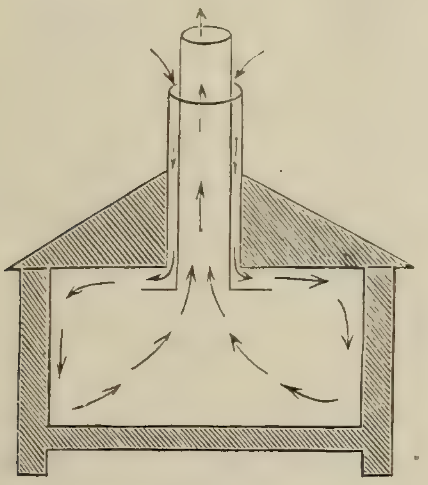
FIG. 1.

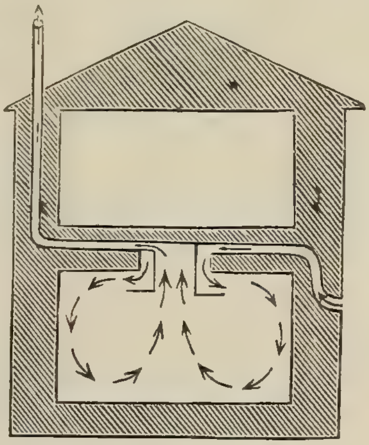
FIG. 2.

Plans of Pipes.—Of the various plans proposed for air-tubes and shafts, Dr. Parkes recommends McKinnell's circular tube.*

See Figs. 1 and 2. It consists of two cylinders, one encircling the other, the area of the inner tube and encircling tube being equal. The inner one is the outlet tube ; it is so because the case of the other tube maintains the temperature of the air in it ; and it is also always made rather higher than the other ; above it should be protected by a revolving cowl. The outer cylinder, or ring, is the inlet tube ; the air is taken at a lower level than the top of the outlet tube ; when it enters the room it is thrown up towards the ceiling, and then to the walls by a flange placed at the bottom of the inner tube ; the air then passes from the walls along the floor toward the centre of the room and upward to the outlet shaft. Both tubes can be arranged to close by valves. If there is a fire in the room both tubes may become inlet tubes ; to prevent this the outlet tube should be closed. The movement of air by this plan is imperceptible, and it is an admirable plan for square rooms or small churches ; for long halls it is less adapted. The tubes may be of any size, from six inches for ordinary living rooms, to seven or eight feet for churches. The two tubes after passing out of the room may be carried in different directions, care being taken that the inner tube is the largest. An advantage would be gained if the two tubes could be kept together some distance, as the hot air of the inner tube would transmit the incoming air, so that it would enter the room at a higher temperature than it otherwise would.

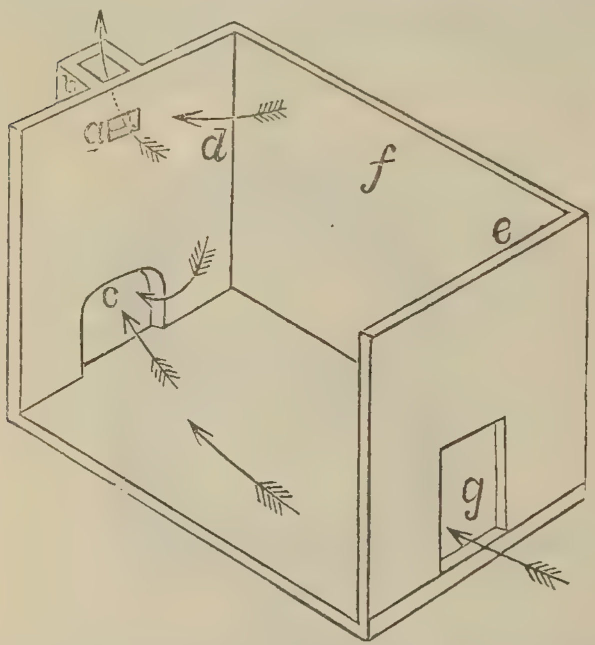

Fig. 3.

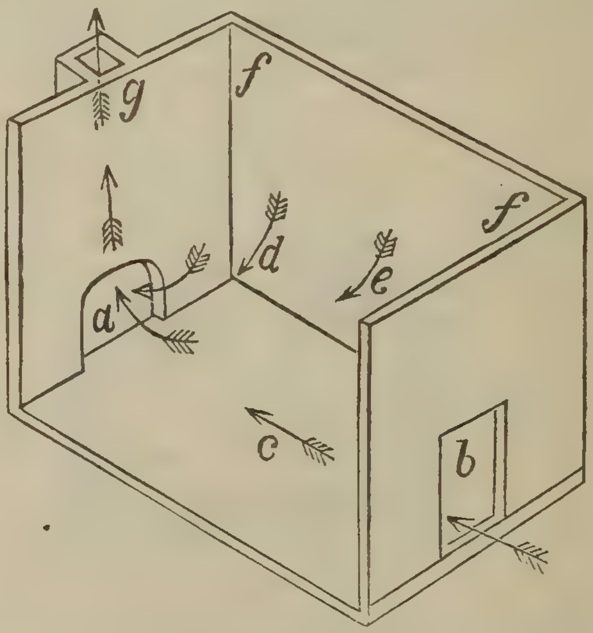

Fig. 4.

Ventilation by the open fireplace is admirably illustrated by Burn in his little work on "Sanitary Science," page 82.

The withdrawal of pure air is illustrated by Fig. 3 copied from Mr. Burn's work. An opening is made at *a* in the breast of the chimney *b* of the fireplace *c*.

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*Parkes' Hygiene, page 163.

Fig. 4 shows the ordinary kind of ventilation carried on in which there is a fireplace *a*. The currents are mostly drawn by this along the floor from the door *b*, as shown by the arrow *c*. The arrows *d e* indicate the currents from windows in close proximity to the fireplace, but the air lying near the ceiling, as at *f f* and *g*, is rarely influenced by the draught of a fireplace *a*, even when there is an opening in the breast as at *a* in Fig. 3.

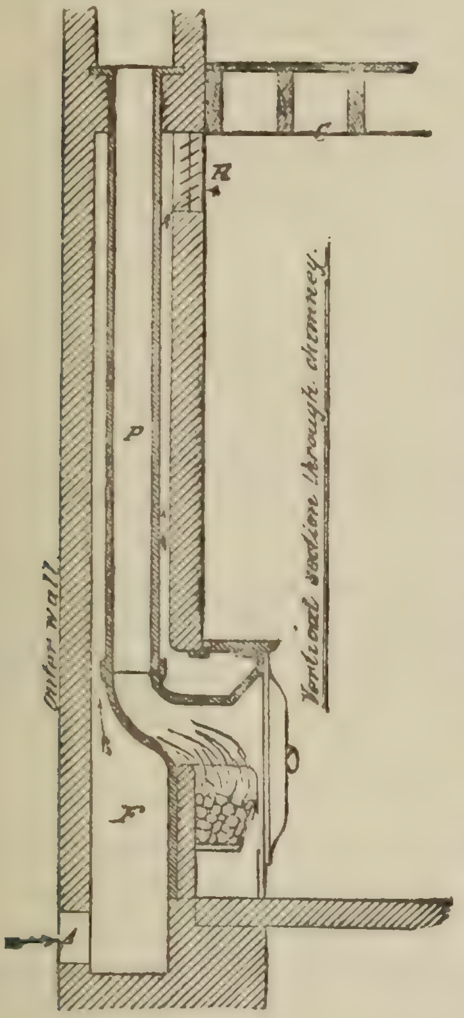

FIG. 5.

Probably the best plan of ventilation by open fireplaces is that known as the Galton, a description of which was given by our Secretary in his last report, and which is here reproduced:

These grates are built into the chimney (Fig. 5)—this is a very delicate job, and requires an expert in the building of fireplaces and chimneys—and are of iron, but have a lining of fire-clay. From the throat of this grate an iron pipe rises some ten feet (just above the ceiling C), terminating in a flue, which runs the remainder of the chimney, and should terminate in a cap.

The air admitted from the outside, at the base of structure *A*, is warmed by contact with the heated sides and back *F* of the grate; then, after being still further heated by surrounding the iron pipe in its ascent, it is delivered into the ward from a lowered opening or register *R*, placed just beneath the ceiling *C*. The opening at *A* should be carried to the outer air by a pipe or flue.

Edward Smith, a Member of the Royal College of Physicians, in his standard work on "Foods," gives the following general directions for ventilation:

1st. Inhabited rooms should if possible have external walls on two sides, so that air may be admitted through both.

2d. The openings should be small and many, rather than few and large, defended by perforated zinc, and placed as distant as possible from those who inhabit the room. Hence the cornice above and the skirting below are convenient protections, but rooms of less than ten feet in height are not easily ventilated without draughts. The connection between the inside and outside of the room should not be direct, but at an angle, so that a direct current may not be produced.

3d. Such ventilations as direct the current to the ceiling are useful in a degree, but the cold air thus admitted will descend before the air is warmed.

4th. Channels which are divided by a perpendicular diaphragm, on the theory that there will be an ascending current in one and a descending current in the other, are for the most part based on a fallacy, and when the heat of the air is very great, there will be an upward and downward current in both.

5th. An air flue by the side of the chimney flue, into which the exit tubes lead, will act in some degree so long as there is fire in the chimney to rarify the air ; but if an Archimedean screw can be placed at the top of such a flue, it will produce an upward current when there is no fire, provided there is wind to move it. This apparatus may be attached to any air flue placed in any position.

6th. The use of the chimney flue as an exit for the air is liable to allow the smoke to enter the room through it when there is a down draught, notwithstanding the excellent contrivances which have been devised to prevent the return current.

7th. Whenever it is proposed to renew air, means for supplying a larger quantity of air should be provided, or the attempt at ventilation will be ineffectual.

8th. It is often desirable to warm as much of the air which is admitted as possible, and for that purpose stoves have been designed with an exit from a special channel into the room.

The idea advanced in the last rule of Dr. Smith may be carried out by placing the stove or heating apparatus in the cellar, or one room of the cellar. By this method the warmed air may be carried through every room in the building to the roof, where it makes its exit through a cowled flue.

Dr. John S. Billings, of the United States Army, says, in his work on "Heating and Ventilation" : "For an ordinary room in a dwelling-house which is to be heated by indirect radiation—that is by warm air—it will be necessary, in order to secure satisfactory warming, when the temperature of the external air is below the freezing point and the room has the usual proportion of external wall and window surface, that the amount of air supply shall be about one and one-half times the cubic contents of the room. I would advise that heating surface, foul and fresh air flues and registers be provided for an air supply of one cubic foot per second per head for rooms which are to be occupied constantly."

F. Schumann, civil engineer of the U. S. Treasury, in his "Manual on Heating and Ventilation," says : "Currents in ventilated rooms are either directed upward or downward ; in the upward direction the pure air is admitted at or near the floor, the impure air passing off at or near the ceiling ; in the downward direction the pure air is admitted at or near the ceiling or through inlets through the wall near the floor, and the impure air passing off through the floor or openings in the walls near the floor. Public places where large crowds assemble should have the upward direction. Smaller rooms, offices, dwellings, etc., may be ventilated downward." The pure air inlets should be distributed equally around the room, with the outlets for impure air in such position as to cause the currents to sweep the entire room, being careful not to place an outlet directly over an inlet.

"In the upward movement the inlets may be in the floor, in risers of platforms, sides of walls near the floor. In stationary desks, in front of stationary benches, etc., the outlet may be in the cornice or ceiling, or sides of walls near the ceiling. This method requires no change with the seasons, the fresh air entering the same way in summer that it does in winter, when the room is heated.

"In the downward movement, on the other hand, the fresh air in summer may be admitted at or near the floor and passed off near the ceiling. Where windows are available and so placed that currents pass through the room, no other provision need be made for summer ventilation."

Velocity of currents per second.—When entering at or near the ceiling, and not less than twelve feet above the floor, and descending 1.8 feet; when the openings are the same as above and horizontal 4.0 feet; when entirely at or near the floor (maximum) 2.0 feet; in ducts, shafts, etc., 3 to 10.0 feet.

"In cold weather, when the temperature of a room is higher than the external air, the air should be admitted at the bottom and passed off at the top of a room; in warm weather, when the temperature of the room is lower than the external air, the pure air should come in at the top and pass off at the bottom of the room.

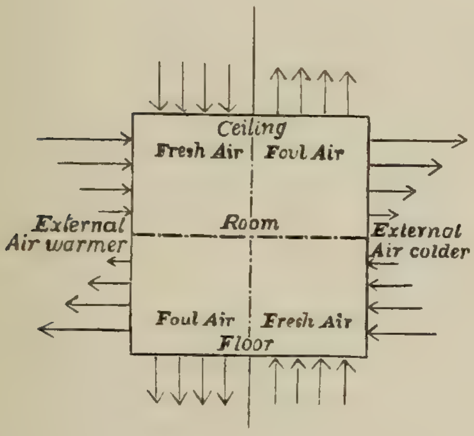

Fig. 6.

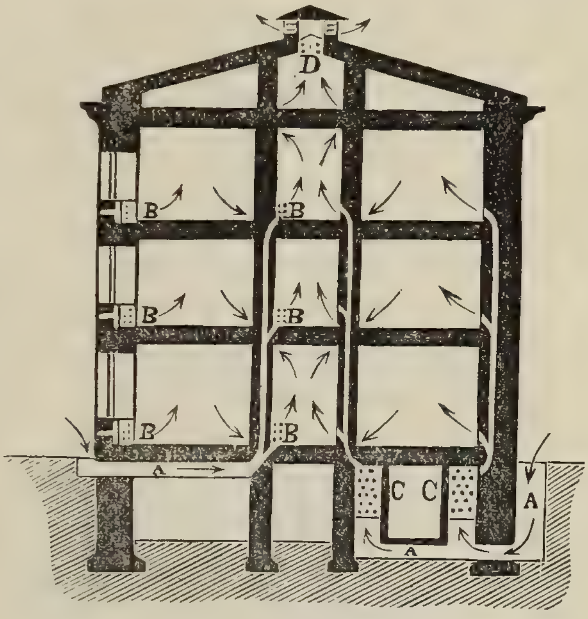

Fig. 7.

"The movement, as shown in Fig. 6, can be reversed by either the *vacuum* or plenum method (heat or fan), when desirable, but they should coincide with and assist nature (gravity) it being more economical where ventilation is required. The vacuum movement is represented by Fig. 7, which represents a section through a building showing downward and upward movement of air currents."

A room to contain not more than from 15 to 2 per cent. of vitiated air must be supplied with from 5.6 to 49 times more fresh air than is vitiated plus that quantity required for illuminating purpose.

An adult man vitiates per hour	215	cubic feet.
Every cubic foot of gas burned	8.5	cubic feet.
Every pound of oil burned	150	cubic feet.
Every pound of candles (6 to a pound)	160	cubic feet.

The sources of heat in units in rooms per hour are:

By an adult	191
By one cubic foot of gas	600
By one pound of oil or candles	15,000 to 18,000
By an average four foot gas burner	2,400
By each flame from an oil lamp	430 to 515
By each flame from a candle	454 to 545

In order to give a better idea of proper methods of heating and ventilation of a dwelling, for heating is inseparably connected with ventilation, I would recommend the publication of the plans of a dwelling house, as given in an able treatise on this subject by Dr. John S. Billings, and printed in the *Sanitary Engineer*, October 18, and November 1, 1880. This would give the general public a more thorough knowledge of the subject than a hundred pages of explanatory notes.

There is one feature of house building which appears to be governed by no system or rule, and that is the mode of constructing chimneys.

Investigation of chimneys in a score of houses closely contiguous will show scarcely two alike, of the same dimensions. They appear to be constructed according to the caprice or fancy of the builder. Probably not one chimney builder in fifty or one hundred can give any methodical or scientific reason for his method of putting up a chimney. It is no marvel then that we have smoking chimneys and chimneys that draw the wrong way. The tendency is to make them too small, doubtless, from the increased use of stoves. Chimneys may be too large as well as too small. If too large the probabilities are there will not be heated air enough provided for it, and down drafts will be the result.

Upon this subject I quote from Dr. Billings:

"The shape of a flue should be as nearly round or square as the size of the walls and joints will admit. The circle is the best form, because it gives the greatest area in proportion to the *perimeter*, or surface producing friction, and the square is next. If a flue is rectangular (as most chimneys are) with one diameter not more than four inches (the width of one brick) the friction will be great, and if such a flue be so placed that one of its long sides is parallel to a surface of the wall which is exposed to cold air there will be a great loss of heat. Flues to carry the product of combustion (without reference to ventilation of ordinary dwellings) should be, for each room, if built in the usual way, about one foot square, or for common bedrooms 9x12 inches. If lined with smooth pipes or cement they may be nine inches in diameter."

To remedy smoking chimneys, see that each has its own sufficient supply of air from without, and that one does not draw against another flue.

To illustrate: In one of the large public buildings in Washington were several rooms freely communicating with each other, and each having an open grate. On building the fire in No. 1, the draft was excellent; in No. 2, not so good; in No. 3, bad, while in No. 4 the draft was all down the chimney. The chimney doctor put in an appearance with his patent back-action flue persuader, and applied one to the flue of No. 4, thus raising it three feet, and it worked well, but No. 3 smoked like a tar kiln. That was also doctored, when Nos. 1 and 2 smoked; these were also fitted with a persuader, thus making all the flues of equal height, and the result was they became as at the start, and the process of doctoring had to be done over.

VENTILATION OF CELLARS.

It is frequently desirable to ventilate cellars to remove heat or moisture. John P. Hawkins, Commissary of Subsistence of the U. S. Army, gives the following plan:

"When the outer air is warmer than the air of the cellar, and it is desired to remove moisture or impure air, advantage should be taken of dry wind from a favorable direction. As at about three or four o'clock in the morning it is generally the coldest, this would be the most favorable time in warm seasons. Though simple openings at the top, opposite each other, might be sufficient for ventilation they will not arrest light. Tubes are therefore necessary. The inlet tubes should extend to the bottom of the cellar, with a close-fitting cap at that end, for opening or closing. The upper end should extend horizontally with a hopper-shaped mouth, which can be turned so as to catch the wind from different directions. The outlet tubes should be placed at the top of the cellar wall and not extend beyond the inner face. The outer end should extend upward and be provided with caps also. Both tubes may be fitted with cowls and vanes, so as to turn the wind. All other openings to the cellar should be closed. The number of tubes necessary will depend on the size of the cellar, but they should not be less than ten inches in diameter each. Galvanized sheet iron is a good material for tubes, or they could be made of boards cemented with paint lead. If an outlet tube were carried up through the roof it would be better. A chimney flue from the cellar to the roof is a good outlet. The cooler the inlet current of air the more rapid the removal of moisture. To illustrate: If the outer air at a temperature of zero, and raised therein to 60°, be admitted to a cellar, it would absorb and carry off about five troy grains of moisture per cubic foot; if raised to 100° it would absorb and carry off nineteen grains per cubic foot."

VENTILATION OF PRIVIES.

I do not know that I can add anything to the excellent method recommended by our civil engineer, Mr. Loring, for the ventilation of privies, as they are to be found generally in the State. On general principles I would say they should be located as far from dwellings, or habited buildings, as possible, and under no circumstances should they be placed within six feet of any dwelling or school building. The practice of placing privy vaults within the walls of a dwelling should be abolished. If, however, a vault must be placed contiguous to a dwelling it should be outside the walls of the dwelling, and from the vault to the roof it should be entirely separate. Ventilating flues should be placed from the vault to the highest point of the dwelling of an area of not less than thirty-six square inches, and increased with the size of the vault. Its lower end should open into the vault at the highest point at which the gases will have access to it. The flue should be made of galvanized iron or other metal, as the heat of the sun acting on it will create an upward draft inside the flue. It should be provided with a cap to prevent down drafts. The building over the vault should be provided with ventilation by lattice blinds. Every seat should have a cover, which could be kept closed.

School privies should not be less than fifteen feet distant from the building. The farther off the better. They may be connected with the building by a covered passage way. It is usual to construct school privies double, with the seats back to back. The partition at the back should also be double and reach to the roof, with a proper space between to serve as a ventilator.

Outlets may be made in the roof, into flues extending upward, sufficiently high to carry the gases above the roof of the school building.

Each apartment should be ventilated by lattice blinds. The building should not be less than ten feet high to the cornice, and the flues should reach to the height of the school building.

VENTILATION OF SEWERS.

The admission of gas from the sewer into a habited dwelling is to saturate the same with poisoned air. To quote from Sir Edward Philbrick: "The risks we incur by breathing sewer gas are too serious to be laughed at or whistled over. Common sense should teach us that an ounce of prevention is worth a pound of cure."

Following this idea, Charles F. Wingate, before a conference of the State Board of Health of New York, said: "The proper method to secure a free atmospheric current through house drains is by supplying foot ventilation close to the trap on the main drain."

This method is also indorsed by Hellyer in his work, "The Plumber and Sanitary Houses," in which he says: "The advantages of this second air pipe, or foot ventilation, are greater than will be conceded, except by those who have proved its value. A practical test of eight years upon soil pipes and slop sink water pipes has resulted in every case with the utmost satisfaction. This air pipe at the foot of the soil pipe is extremely valuable, for by this means a constant change of air is taking place throughout the entire length of a pipe to render it wholesome and prevent any air becoming stagnant in any part of the pipe; for when the soil pipe is not in use, this second air pipe at its foot acts as an air inlet."

This plan is well illustrated by Fig. 8, for the use of which I am indebted to the courtesy of the Durham House Drainage Company, of New York, which also illustrates a most admirable and safe system of house drainage. The heavy or dark lines show a system of wrought iron pipes, with steam and gas-tight joints, precluding any escape of sewer air into the dwelling. There is an apparent error in the plan, evidently that of a plumber. The pipe A, from the bowl of the closet, should either go into a heated flue or be carried through the roof, independently, with a constantly burning gas jet inside of it, to insure draft up the pipe.

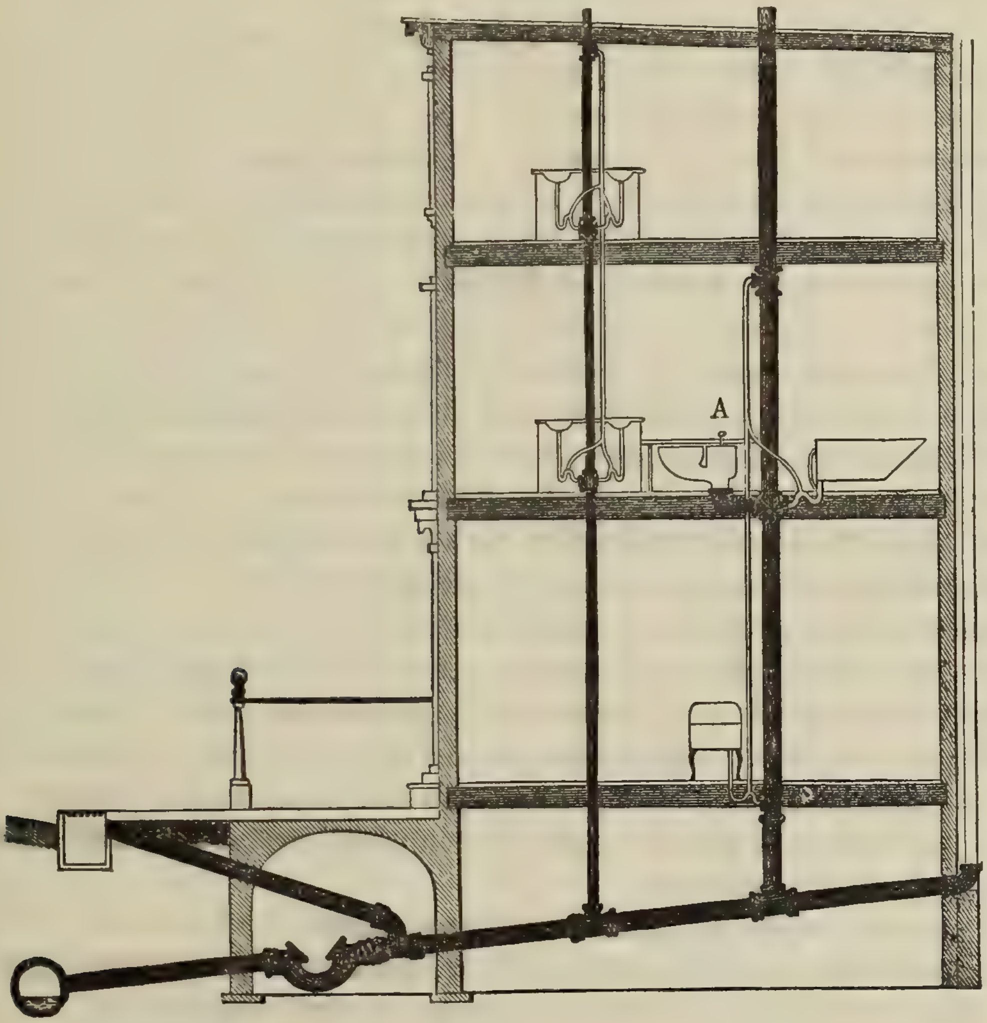

Fig. 8.

The following requirements for house drains have been adopted by the best authorities of this country, and in several of the large cities:

"Every house drain should have an inlet for fresh air, entering at a point inside the main trap and carried to a convenient location out of doors, not too near windows.

"A trap should be placed upon every main drain to disconnect the house from the sewer or cesspool.

"In places liable to unusual pressure from the sewer it should be a double trap, with vent between the two traps running up full size above the roof; or where the pressure from the sewer is only occasional, and the rigor of the climate will permit, the vent may be carried to the sidewalk or area at a safe distance from the windows.

"If the first trap is forced the gas can gain easier exit through this pipe than through the second trap.

"Every vertical soil, or waste pipe, should be extended at least full size through the roof. No trap should be placed at the foot of vertical soil pipes to impede circulation.

"Traps should be placed under all sinks, basins, baths, wash-trays, water-closets, etc., and as near to these fixtures as possible.

"All traps under fixtures, wherever practical, should be separately ventilated to guard against siphonage. Such pipes should not be inserted into a soil pipe below where any drainage enters it. In some cases it is preferable to carry it to outer air independently. Rain-water leaders should not be used as soil pipes, and when connected with house drains the joints should be made gas and water tight to prevent drain air entering the windows. No safe waste should connect with any drain, but it should be carried independently down to a point where its discharge would indicate the existence of a leak or overflow.

"No waste from a refrigerator should connect with a drain."

The essential points of sewer ventilation are summed up by Mr. Latham, in his book on "Sanitary Engineering," as follows:

1. That the system should be simple in operation, not liable to get out of order, and independent of uncertain mechanic contrivances.
2. That it should admit of expulsion of all sewer air, and the supply of fresh air at all periods.
3. That the escaping gases shall be so diluted with atmospheric air as to be rendered harmless, or that they shall be "destroyed or arrested."
4. That the system shall not impede natural ventilation.
5. That it shall not be costly in execution or maintenance.

VENTILATION OF SCHOOL-HOUSES.

It has been variously estimated by different authorities that in early childhood from one-fifth to one-fourth of all the blood in the body is directed to the brain. The whole mass of blood traverses the entire body about once a minute.

The wonderful activity of the circulation may be better appreciated by estimates proportioned to greater lengths of time. It will appear, then, that the heart contracts more than four thousand times an hour, and that as each contraction sends forward four and two-fifths ounces of blood, over one thousand pounds of this fluid pass through the heart every hour.

When the blood has completed one tour of the system it necessarily passes through the lungs before beginning another. This route is intimately connected with the purification of the blood. It is by this means the blood absorbs oxygen from the air, and parts with carbonic acid and other noxious elements.

Oxygen is the agent of nutrition to all the tissues; it is the great inciter of all vital changes, and its presence is indispensable to life and growth.

If the blood passing through the lungs does not there obtain a supply of oxygen it takes back to the brain and other tissues carbonic acid instead, and the consequence is an arrest of the changes necessary to life and growth.

If in passing through the lungs the blood meets with a small supply of oxygen—or that which amounts to the same thing, air surcharged with carbonic acid—a partial arrest of vitality takes place, the vigor of the organism is diminished, the functions are depressed, and there will be a gradually increasing torpor of the mental faculties, and ultimately a stunted intellect and premature death.

A due supply of unadulterated air to the respiratory organs is recognized as among the most important conditions of health at all ages, and under all circumstances, but at no age is this so essential as in childhood.

Air vitiated by respiration is not only known to be among the most active influences in promoting spread of many fatal diseases, but on young children who may escape these diseases it exercises a powerfully depressing influence.

Very few school-houses in any State are so constructed as to supply pure air to the inmates. As a rule they are little else than hot-beds of disease.

With defective or no ventilation at all, they are overcrowded, on the apparent assumption that small children require only small breathing space.

According to the rule given in another part of this report the lowest estimate would require 300 cubic feet of space and twenty-five feet of floor for each scholar.

Thus a room 30x30 and twelve feet high might contain thirty-five scholars and the teachers, but this should only be used with good ventilation, a ventilation which would introduce 72,000 cubic feet of fresh air every hour, and change the entire air in the room six times an hour. How many school rooms in Iowa of this size or any other are fitted to these conditions? Instead we find the scholars nearly double in number and little or no ventilation. Not only is the air in the room contaminated by respiration, but from organic particles thrown off from the unclean persons of unclean pupils.

A facetious professor of a college was wont to remark when a change of classes took place in his room: "Mr. Jones, will you please open the window and let the remains of the senior class out of the room." There was much scientific truth in his humor.

The actual "remains" of our bodies contaminate the air of our rooms more than is usually considered.

A thoughtful lady who had employed an engineer to provide ventilation for an orphan asylum, remarked to him: "I think we have got to ventilate every child." This exactly expresses the idea of ventilation. Each child in a school-room should have its share of pure air and not after it has been breathed by some other pupil.

The methods to produce this result are numerous. But whatever method be applied it should be automatic and never dependent upon the action of any person. And in this connection heating is so closely identified, that it is inseparable from it. This applies to colder seasons. In summer there is very little need to resort to artificial ventilation; open doors and windows will give the necessary supply of air.

Heating is usually secured by an open fire, steam coils, stoves or radiators and furnaces. Stoves are objectionable because the radiation of heat is limited to a small area, and too frequently tending to heat a large area with a small stove, kept at red heat. Steam coils as commonly used are objectionable, because there is seldom any method supplied for renewal of air in the room. Furnaces properly constructed are the most desirable, because by their use ventilation must be more or less secured.

The tendency is to too small heaters and they are therefore like stoves kept red hot, thus supplying a noxious and poisonous air. If a furnace is used it should be large, so as to supply abundance of air moderately heated.

(The conclusion of these extracts will be given in the next number of the JOURNAL).

BIOGRAPHY.

DR. PLINY A. JEWETT.—Dr. Pliny Adams Jewett, one of the leading physicians in New Haven, died in Providence, R. I., recently, of pneumonia. Dr. Jewett was considered high authority on disputed questions of surgery and obstetrics, and of late years his knowledge on these subjects has been frequently used in the courts. He was called as an expert in both the Hayden and the Malley trial, and he was in Providence as a witness in a murder case when seized with the disease which caused his death. Dr. Jewett was born in Hampton, Washington County, this State, in 1816. He received his education in Trinity College, Hartford, Conn., and afterward took a medical course at Yale. He was graduated from the latter institution in 1839, and went to Paris to further perfect his studies. He afterward settled in New Haven, and, with the exception of two years' residence in Aiken, S. C., he has since lived there. In 1847 he married a daughter of Leicester Carrington, a prominent citizen of Bristol, Conn. For forty years Dr. Jewett has been attendant surgeon at the New Haven Hospital, and he was for twelve years Professor of

Obstetrics in the medical department of Yale. During the war he was surgeon of volunteers, and was afterward promoted to a Colonelcy for meritorious services. Dr. Jewett organized Knight's United States Army General Hospital at New Haven, and he had charge of it from 1862 to 1865. He was a member of the Connecticut Medical Society for thirty-seven years, serving as its President in 1876. He was also an honorary member of the New York Medical Society. Two sons and a daughter survive him.

JEAN BAPTISTE DUMAS.—Jean Baptiste Dumas, whose death is announced in a dispatch from Paris, was one of the most distinguished chemists of France, the incumbent at different times of many offices of trust, and a prolific writer and lecturer on chemical and kindred subjects. M. Dumas was born on July 14, 1800, at Alais, in the Department of Gard At the age of 14 he went to Geneva to study chemistry, botany and medicine, but it was the first-named subject in which he took the most interest and displayed the greatest ability. His early researches in animal physiology, in which he was associated with M. Prévost, first attracted the attention of scientific men to his abilities. In 1823 his industry was rewarded by an appointment as teacher of chemistry in the Paris Polytechnic School. One of his first scientific publications was a memoir on the relations existing between the specific weight of solid bodies and their atomic weight, and from that time his investigations have constantly added to the world's knowledge of organic chemistry. His most important work was his theory of substitution, and his treatise on chemistry as applied to the arts was a practical work of much value. For many years M. Dumas was one of the most distinguished lecturers in Paris, and in May, 1849, he was elected to the National Assembly. Louis Napoleon, who was then President of the Republic, summoned him to the post of Minister of Agriculture and Commerce in October of the following year, a position which he filled with marked ability until January 9, 1851. He was Chairman of one of the juries of the great London Exhibition of 1851, and Vice-President of the French Senate from 1861 to 1863. He was decorated with the Grand Cross of the Legion of Honor, on August 14, 1863, and in 1868 was elected Secretary of the Academy of Sciences. He was a member of the International Monetary Commission of 1875–6, and in June of the latter year he was received as a member of the French Academy, succeeding to the chair formerly held by M. Guizot.

DR. ALLEN THOMPSON.—On Friday, March 21st, Dr. Allen Thompson, formerly Professor of Anatomy in the University of Glasgow, died at the age of 75. Dr. Thompson held a high position in the scientific world as an excellent anatomist, and an able contributor to the science of embryology. He held the Professorship of Anatomy in Glasgow from 1849 to 1877; previously to which he had occupied chairs in the Universities of Aberdeen and Edinburgh.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

SUFFOLK DISTRICT MEDICAL SOCIETY, MASSACHUSETTS.—THE SPAYING OF COWS TO IMPROVE THE MILK AND RENDER THE SUPPLY CONSTANT. A paper read before the Section for Clinical Medicine, Pathology and Hygiene, by Mr. LLOYD F. ABBOTT (*Boston Med. Journal*).

The milk supply of Boston may be divided into three classes: first, that brought in on the cars, and commonly called railroad milk; second, that brought in wagons from the surrounding country, and called out-of-town milk; third, that from cows kept within the city limits. Each one of these may be divided into three classes: first, from the new milch cow; second, from the farrow cow, or one that has been milked for a year or more; third, from a springer, or one with calf. The nature of the new milk is very loosening; it is well known among farmers that the first milk given to a calf three or four weeks old will scour it to death. This milk changes as it increases in age, until at the end of a year the milk of a farrow cow becomes very astringent. This milk, if given to a calf a week old, would have exactly the opposite effect of the other. The milk of the springer gradually changes until near calving; it becomes more watery, and has a limy taste.

Let us first consider the railroad milk. The distance from the city and the number of hands through which this passes (all of which have to be paid) make the farmers' returns small. The difference between a farrow cow milked out and a new milch cow is usually from twenty to twenty-five dollars; the farmer can better afford to let his cows go dry from two to three months than to pay the difference. Railroad milk is therefore mostly produced from new milch cows and springers. Let us visit Mr. B.'s dairy. He makes milk the year round, and has cows coming in constantly. Some cows may be milked up to the time of calving, but in most cases they will go dry from one to three months—usually about two—and will give but little milk for some time before. The low price that Mr. B. receives for his milk, and the loss he sustains while his cow is giving none, make it necessary for him to use all that he can of it. This, together with the fact that he does not see or know the parties who use it, makes it natural that he should send to market milk that he would not use himself. Mr. B. commences to milk at one end of the barn; the first cow may be a new milch cow, possibly the first milkings, and will fill, or nearly fill a can. The next may be a farrow cow that has been milked for a year or more, or may be a springer about to calve; in either case will give but little, and it will take the milk of two or three of them to fill a can. Therefore, the milk from the same dairy may be of the greatest possible extremes. Mr. B., having finished his milking, the milk being at a temperature of 100° F., sets it in cold water, which will reduce the temperature to about 55° F. or 50° F. The milk is thus disposed of for the night. The morning's milk is managed in the same way, perhaps with the exception that the collector comes before there is time to cool the milk off. It is then placed in a wagon and carried from one to seven or eight miles to the depot, by which time the milk is thoroughly shaken up and the temperature has risen several degrees. If the car starts from this place, the milk may be put on and iced immediately; otherwise it must wait until the train comes along, and reach a still higher temperature. When on board the cars, it is iced, and by the time it has reached the city, from eight to ten A.M., the temperature has been reduced to 50° F. or 45° F. It is then taken from the car to the milk stable, where it remains usually from one to two hours before it is prepared for the consumer and iced. In the meantime the temperature has risen several degrees. The milk remains in the ice chest until two or three o'clock the next morning, when the temperature has again been reduced several degrees. It is then loaded on the wagon and delivered to the consumer. If there is any left over it is taken home, iced, and used the next day. This milk, therefore, is from twenty-four to thirty-six hours old before it reaches the consumer, and what is left over has twenty-four hours more added to it, and still people wonder why milk does not keep longer. This is the supply which reaches the city from eight to ten A.M. There are carts which reach the city from one to three A.M. which bring the milk of the night and morning before ; a part of this is used the same day, but most is not used until the following day. It therefore may be used twelve hours fresher, but oftener twelve hours older, than that reaching the city earlier in the day.

As this milk comes from so great a distance it does not pay to carry out brewery grains or refuse vegetables from the markets. The cows are fed on such fodder as is raised in the neighborhood, and on meal or shorts. But the milk dealer in the city is so far from his source of supply that he knows but little or any more about the cows or the condition they are in, or upon what they are fed, then the person who uses the milk.

The producer of the "out-of-town milk," being nearer the city, receives more for his milk, which, together with the extra risk of miscarriage from the effects of feeding on brewery grains, makes it about an even thing with him whether he changes his cows once in twelve or eighteen months, or has them "come in" in that time. This milk is from new milch, farrow, and springer cows, and is produced to a great extent from brewery grains; it receives very nearly the same care as the "railroad" milk until it reaches the stable of the dealer instead of going to the depot. The driver of this team starts from twelve to one o'clock A.M., which makes it impossible to bring in the morning's milk, and as the milking is the last chore at night, but few of the out-of-town men raising their own milk, and the dairies being scattered, milk is usually collected in the morning for the next day. It will be seen that the "out-of-town" man may bring in the milk of the night before, but as a rule does not; it is usually from twenty-four to thirty-six hours old. As the "out-of-town" man goes home in the heat of the day, often reaching it at three or four o'clock, it is impossible for him to keep his surplus over. He has a certain poor neighborhood where he skippers his surplus milk, that is, sells it on the street, or from door to door, from a third to a half less than the usual price, often making up the differences with water, and the poor will buy it because it is cheap, though not so good. Several years ago, when milk was selling for eight cents per quart, I knew one man who used to make his extra milk one-half water, and sell it for five cents per quart, thus making a "good thing" of it.

The milk raised in the city should be divided into two classes : first, that from cows kept to produce milk for market ; and second, that of cows kept for family use. The first class is found near breweries, or near the salt marshes, and to a great extent the food is brewery grains and rotten potatoes, or other refuse vegetables. Many who have cows keep a team to haul brewery grains, and go around the market and collect refuse vegetables. The Milk Inspector, in one of his reports, mentions finding rotten potatoes in a milk stable, but as he did not find the cows eating them did not consider it a case with which he could interfere. This milk may be, and often is, delivered to the consumer warm from the cow, but is thinner in quality and will not keep as long as milk from cows fed on whole grain, grass, or hay. In fact, the milk partakes to a great extent of the substance on which the cow is fed. The dealer realizes a good price for his milk, and can better afford to pay twenty or twenty-five dollars difference in changing his cows than to keep one three or four months that is giving little or no milk. This milk is produced mainly from new milch cows, farrows, and light springers. It is the custom with this class of milk producers to buy a new milch cow and keep her farrow a year or more, and then get her with calf, which gives her a more suitable plumpness, by which means she is disposed of with better advantage to the butcher.

The second class of city cows are those kept for family use, usually well fed, and often overfed. A person wishing a cow for family use, not being posted in the market and no judge of a cow, usually pays a high price; if he is fortunate and secures a good one, he receives a good supply of rich milk. If he keeps a daily record of the amount of milk obtained, he will find that once in about three weeks there will be a time, sometimes affecting three milkings, that the cow will not give more than one-half or two-thirds as much as usual, and that after each one of these turns there will be a gradual decrease, until at the end of a year she will not give one-half as much as at first, and that not nearly as good. Not giving much milk, and constantly giving less, she must be disposed of for beef at a loss, or, if the owner wishes to keep her and have her come in once a year, he must have her got with calf three months after she has come in, when the milk will decrease in quantity as well as in quality. To sum up, the owner of a cow under these circumstances is sapping the milk which he intended for his family for six or seven months, and going without for two or three months, for the purpose of getting his cow to give milk again and producing a calf, which, although the material he has consumed, if devoted to milk, would be worth a great many dollars, will scarcely bring a dollar, and often has to be given away. Besides this, the owner has to run the risk of his cow's coming in in bad shape, or of miscarriage. There is no domestic animal so liable to accidents of this kind as the cow, owing to her being milked, a disadvantage which no other domestic animal labors under. In such a case she will give little or no milk.

What I propose as a means of improving the quality of the milk, and at the same time reducing the cost of production, is the spaying of cows for milk, an operation but little known even among veterinary surgeons. After two years' experience and inquiry I have been unable to find any one in Boston familiar with the operation. It consists of removing the ovaries from a new milch cow, which takes away all desire or ability for reproduction, and makes of her a constant milker ever after. These are some of the advantages gained by the operation: first, an increase in the quantity of milk, as the animal has nothing else to do but give milk or grow fat, and by giving milk-producing food the quantity may be increased a third. Secondly, the certainty of having a constant supply of milk of the same quality. Thirdly, producing a richer milk and of even quality, as the animal is always in the same condition, all causes of change having been removed; this alone is inestimable in its advantages to the sick, or delicate children. Without this operation, milk obtained from a new milch cow under the most favorable circumstances will vary much; once in three weeks there will be a time, often affecting three milkings, that the milk is at fever heat, and will not keep as long by one-third as when the animal is in the ordinary condition.

It is not an uncommon occurence for a person in delicate health, or a child, fed on a milk diet, although the milk be from one cow, and the greatest possible care taken of it, to have a bad day or a feverish night, for which no reason can be assigned, but which may be traced to such a cause as this. Fourthly, decrease in the cost of keeping, for by the operation causes are removed which produce waste of material that now goes to milk. Fifthly, by this operation cows may be kept for years, giving the same quantity of milk, thus avoiding the loss sustained while the cow is dry, and the liability to accidents during calving. Sixthly, the spayed cow fattens more easily, its flesh is better than that of the ox, more tender and more juicy ; indeed, no one is ignorant of the fact that all domestic animals, female as well as male, deprived of their procreative organs, fatten more quickly than those that retain them, and the flesh of the spayed female is more tender and juicy than that of the male. By this means the farmer will realize a better price for his cows when they have passed their days of usefulness as milkers, and the public will be protected from a practice often resorted to by farmers to obtain the best possible price for old cows, that is, to bring them to the bull, intending that gestation should give them more suitable plumpness, so that they may be disposed of to better advantage to the butcher. The result of this is mere bloated, flabby flesh, which easily taints ; broth made from it is not rich, and without flavor.

I first became interested in this operation early in 1880, through information obtained from a work translated from the French. I afterwards obtained other treatises on this subject, and soon became convinced of the advantages to be obtained by it. I made inquiries among veterinary surgeons, but could find none familiar with the operation. While making inquiries upon this subject I learned that Hon. Josiah Quincy had had the operation performed at his farm in Quincy nearly twenty years ago. I was told that it was a failure. To ascertain the facts in the case, I called on him at his home. He told me that spaying was performed under the direction of his foreman, and that although he lost a number of cows by the operation he considered it a success, and of great benefit to both the producer and consumer of the milk; that the cows continued to give a large quantity of milk for a number of years, and that the milk was of a superior quality. It is by his permission that I refer to this. He also informed me that at one time he thought of publishing an article calling the attention of the public to the advantages of this method of producing milk.

My experience teaches me that it will increase the flow of milk and also improve the quality, and that although there will be a slight decrease at the end of a year, the daily average will be equal to that given at the time of the operation. I have one cow that was spayed in November, 1880, was then giving ten and one-half quarts per day, and now, after nineteen months of constant milking, nine and a-half quarts, and she now comes to the barn every night with milk flowing from her bag. To make a comparison : I have talked with those who have had a longer experience in keeping cows than I have. They all agree that this is a liberal estimate : a cow giving fourteen quarts of milk when she comes in is an extra good one; that at the end of ten months (she coming in once a year) she would not be giving more than three or four quarts, and that not suitable for use, at which time she should be dried off and not milked the other two months; or that an average of nine quarts a day for ten months and none the other two months is all that could be expected, and that this result can be obtained only under the most favorable circumstances. This would give 2,736 quarts. Now I claim that under this operation a cow giving fourteen quarts may be made to average that for three hundred and sixty-five days in the year, as she will increase enough after the operation to make up for any slight shrinkage at the end of the year, making 5,110 quarts against 2,736, and also better milk.

I do not wish to lead any one to think that this operation is without risk, but after two years of practical experience I am convinced that the risk, when the operation is properly performed, is not so great as in ordinary cases of calving.

Manchester Medical Society; D. J. Leech, M.D., President, in the Chair.

EXCISION OF RIBS IN EMPYEMA.

Mr. Whitehead exhibited a man, aged 25, upon whom he had resected between two and three inches of the sixth, seventh, eighth, ninth and tenth ribs, in the Manchester Royal Infirmary. The patient was originally admitted into the medical wards on June 8th, 1883, for empyema on the right side. The chest was opened on June 16th, and a portion of the ninth rib resected to facilitate drainage. In consequence of the sinus remaining patent, and only a moderate collapse of the chest-wall having taken place, the more extended operation was performed on January 4th this year. Each rib was resected subperiosteally. There was practically no hæmorrhage, not a single intercostal vessel being wounded. The opening into the chest was enlarged, and a quantity of lymph scraped with a lithotomy-scoop from the walls of the cavity. When shown, the man appeared to suffer very little inconvenience from his condition; the ribs on the side operated upon were plainly seen to be approaching their posterior segments, and the discharge was reported to be steadily diminishing. Mr. Whitehead stated that the operation was one of remarkable simplicity, and free, so far as he could judge, from any serious risk or difficulty in its execution. In answer to a question, he stated that he was dubious as to the utility of leaving the periosteum; as the tendency of that membrane was the reproduction of bone, and, consequently, renewed rigidity, a sequence calculated to frustrate the object in view. At the same time, he recognized the advantage of retaining the periosteum so far as the question of hæmorrhage was concerned.

Midland Medical Society; W. Ross Jordan, M.R.C.S., Eng., in the chair.

OVULATION AND MENSTRUATION.

Mr. Lawson Tait read a paper on the relations of ovulation to menstruation. He gave a historical sketch of the literature of the subject since 1843, the date of the publication of Dr. Ritchie's papers, and observed that, although Dr. Ritchie's discoveries had been amply and frequently confirmed, the text-books still reiterated the mistaken view that menstruation was the equivalent of the œstrus or rut, and that it was due to the ovarian excitement of the ripened follicle. He next gave a series of observations derived from his surgical practice, in which it was shown that, in forty-nine observations, there was evidence of the concurrence of ovulation and menstruation in nine only; whereas in forty cases the evidence was either negatively (fifteen cases) or positively (twenty-five cases) against the ovulation-theory of menstruation.

New York Academy of Medicine; Fordyce Barker, M.D., LLD., President, in the chair.

Dr. R. F. Weir gave

A DEMONSTRATION OF ANTISEPTIC DRESSINGS AS THEY ARE USED AT THE NEW YORK HOSPITAL.

The principles embodied in the dressings remain the same as when set forth by Sir Joseph Lister, and in the treatment of wounds the aim is to place the parts in such a position as to secure the best drainage and keep them at rest (avoiding frequent renewals of the dressing). To accomplish the last, substances which will prevent decomposition must be used, for this is either caused by micro-organisms or inevitably associated with the process. Whatever theories may be broached concerning the entrance of germs into the body, it is the aim of antiseptic surgery to neutralize conditions which favor the development of germs. Until recently this has been done by the use of carbolic acid and iodoform.

A grave objection to carbolized gauze or jute, etc., is the fact that, however prepared, the carbolic acid evaporates, and leaves the material, if not very fresh, an unreliable antiseptic dressing. One of the great objections brought against carbolic acid and also iodoform is the fact that both are liable to produce toxic effects. We know a little more exactly concerning iodoform than carbolic acid in this respect, and Neuber, of Keil, has demonstrated quite satisfactorily that of this drug forty-five grains can be used safely about a wound. About two years ago Dr. Weir began to use the bichloride of mercury, which has displaced, to a very considerable extent at least, both of the above antiseptic drugs. It is kept in contact with wounds by means of gauze, cheese-cloth, or mull, impregnated with a solution, or by means of peat, first used at Kiel, and also jute, which fell into disuse because carbolic acid evaporated from it so rapidly. The bichloride solution used varies in strength from 1 to 1,000 parts of water to 1 to 5,000. One great advantage which it has over carbolic acid is durability, and a week ago Dr. Weir would have said that it was a very stable chemical. But investigation proved that it is a rather unstable compound, that calomel forms at the expense of the bichloride, both in the solution and in the dressings (gauze, jute, etc.). To counteract this Professor Gibbs, of Harvard, had suggested the addition to the solution of a small quantity of common salt, say 5 parts to the 1,000.

To prepare the dressing, get the sizing out of gauze or cheese-cloth by immersing it in a weak solution of soda, or muriatic acid, or both, then washing it with water and drying it. Then immerse it in the following solution:

℞.	Bichloride of mercury	20 parts.
	Water	4,480 "
	Glycerine	550 "

which is a one-fourth per cent. solution, and allow it to dry. Cotton batting is prepared in a similar way. Jute and moss are prepared by putting them into a solution of bichloride, 1 part to 1,000 of water and 50 parts of glycerine, and allowing them to remain all night, when they are wrung out and allowed to dry (the glycerine prevents them from doing so entirely). Dr. Weir then spoke of wood pulp, peat, bleached and pressed jute, moss, cotton, etc., and exhibited specimens of each, prepared for surgical dressings. These materials can be bought of M. Lienau, 2 Jones Lane, New York.

At the time of the operation a solution of bichloride, 1 to 1,000, sometimes 1 to 2,000 of water, is allowed to trickle nearly continuously over the incision, the parts having previously been thoroughly washed with soap and water and afterward with a solution of turpentine in alcohol, of the strength of two drachms to the pint. The parts should be washed the day before, as well as on the morning of the operation. The rubber bandage is applied (in amputations) and he uses the spray only in abdominal, thoracic and joint operations. Hæmorrhage is arrested temporarily by means of hæmostatic forceps, of which Dr. Weir exhibited a large number, together with knives, having baked-rubbed handles.

The vessels are ligated with catgut, prepared by placing the material in bichloride solution, 1 part to 100 of water, for ten minutes, and then in a watery solution, 1 to 1,000, for ten to fifteen hours, and afterward wound on bobbins and kept in absolute alcohol. Occasionally Kocher's ligatures are used, prepared by placing catgut in oil of juniper for twenty-four hours, and then into absolute alcohol. Dr. Weir prefers, however, to use the ligatures from the oil of juniper alone, without having them kept in the alcohol. The wound is closed with the continuous suture of catgut, leaving an opening at each end for the drainage-tube, that of black rubber being preferred. Dr. Weir spoke also of decalcified bone drainage-tubes, one disadvantage of which was that they were absorbed too quickly. This, however, can be obviated by keeping them in absolute alcohol before use. Cleanse the wound by injecting the drainage-tube until the solution comes out clear, then place a piece of sublimated gauze over the centre of the wound, over that other pieces, and over the whole a compress of several thicknesses secured in position by means of a bandage. The expectation is to have an amptutation wound heal under one or two dressings.

The possibility of toxic absorption of the bichloride solution has led some to use a milder antiseptic during the operations, such as that suggested by Thiersch, of Leipsic, and composed of

℞.	Boric acid	6 parts.
	Salicylic acid..................................	1 part.
	Water..	500 parts.

This is allowed to flow over the wound during the operation, the final washing being made with the bichloride solution. Cleanliness on the part of the operator and the assistants, as well as the patient, and everything about him, is presupposed, and the author of the paper referred especially to the operating-room of Tait and Keith, and the scrupulous care exercised by these gentlemen concerning cleanliness. Special reference was made to the way in which sponges can be made aseptic, and the care which they should receive after each operation. The sponges in the New York Hospital are prepared by first beating out the sand, then washing them in warm (not hot) water, and placing them in a solution of permanganate of potash, 1 to 1,000 of water, for twenty-four hours. Then wash out the permanganate with warm water, and bleach by immersing them in a solution composed of one part of sulphite of sodium to one hundred parts of water, to which has been added a one-fifth part of a watery solution of hydrochloric or oxalic acid of the strength of 8 parts to 100. Only a few minutes are required to whiten them, and if left longer they become brittle. The sponges are then put into a carbolic solution of 1 to 20, or in a bichloride solution of 1 to 1,000, where they remain until used. Sponges prepared in this way cost about a cent and a half each, and can therefore, without much expense, be thrown away after each operation. For simple lacerated wounds Dr. Weir preferred iodoform.

Finally, absolute rest, so far as possible, is enjoined, and this is secured (in cases of amputation, etc.) by means of the tin splint enameled.

To use a common expression, Does all this detail pay? He regarded it like discussing a self-evident proposition, but to show the value of antiseptic treatment a few figures were presented. Prior to the use of antiseptics the mortality from compound fractures of the thigh and leg, arm and forearm, was over thirty-three per cent. in Roosevelt and St. Luke's Hospital; in the old New York, sixty per cent.; in the Boston City Hospital, forty-one per cent.

Under the open treatment the mortality was reduced to twenty-six per cent. Under antiseptic treatment he had had one hundred and eighteen major compound fractures, with eight deaths, a mortality of six per cent. Lately he had had twelve cases of compound fracture, treated with the bichloride dressings, without a single death. Similar testimony is to be had concerning amputation, and Dr. Weir quoted from Billroth's and Volkmann's statistics, and also gave his own, all of which showed a very great reduction in the rate of mortality when compared with results obtained by old methods. In conclusion, the author of the paper repeated the words which he had used on a former occasion: "The saving of life which is thus indicated, occurring as it now does, or ought to do, over the whole world, should entitle the name of Joseph Lister to outrank in medicine all of his century, not excepting the discoverer of anæsthesia."

Dr. A. C. Post was invited to open the discussion, and said he was convinced of the value of what is known as antiseptic surgery, although he was not fully prepared to acknowledge the necessity for all the details of the treatment which had been described by the author of the paper.

There was no doubt that a vast improvement in treatment of wounds had been obtained by Lister's method and its accessories; that is, great care concerning cleanliness, thorough drainage, and the use of antiseptic applications to guard against the morbid processes supposed to be associated with micro-organisms. It had appeared to him, however, that in ordinary wounds, not involving very important parts, it was hardly necessary to go through the entire formality of these complicated dressings. As to the necessity of perfect cleanliness and drainage there could be no question. He was thoroughly satisfied that the results of antiseptic treatment, as carried out in the New York and Roosevelt Hospitals by Dr. Sands and by Dr. Weir, had been an improvement upon those obtained previous to the use of such precautions.

He mentioned one antiseptic to which reference had not been made, and which he had used in the treatment of minor wounds, such as small open wounds, and that was the subnitrate of bismuth, sprinkling the surface with the powder from a pepper-box, and then applying an ordinary dressing. All the wounds, so far, which he had treated in this manner had progressed remarkably well.

Dr. J. D. Bryant, since the spring of 1868, when an interne in Bellevue Hospital, had watched with great interest the development of the antiseptic method of treatment. Between September, 1869, and the spring of 1871 he treated twelve cases of compound fracture. He adopted the plan of treatment then best known, and simply injected into the wound a solution of carbolic acid, 1 to 120, thoroughly washed out all the nooks and crevices, washed the entire limb, and surrounded the whole with oakum saturated in a strong solution, 1 to 80. The limbs were secured in an immovable apparatus of plaster-of-Paris splint. Of the twelve cases all but two recovered, and of these two, one was a particularly bad one, involving the ankle-joint with rupture of the posterior tibial artery and sloughing of the soft parts. Since the spring of 1871, when he left the hospital, he had used the ordinary antiseptic dressing as recommended by Mr. Lister. During the last few months of his hospital practice he had employed the bichloride solution, 1 to 2,000, in conjunction with iodoform, antiseptic gauze, peat, etc., and with entirely satisfactory results, except in one or two instances, where the cause of the suppuration or rise of temperature could be traced to lack of attention.

To Mr. Lister undoubtedly belonged the credit of having perfected and introduced the antiseptic treatment to the profession, but the great fight which he had was with reference to eliminating external influences, as many, if not all, the other measures had preceded him. Dr. Bryant had full faith in the efficacy of the antiseptic treatment, and referred to two very severe cases in which its benefit was especially manifested. One was a case of very large scrotal hæmatocele, and the other was a tumor of the parotid gland. He thought one of the things to be studied by hospital surgeons was how to simplify antiseptic precautions so that they might be brought within the reach of the general practitioner as to give the best possible results. At the present time the bichloride solution, with iodoform gauze, are probably the best that can be used. He employed catgut ligatures soaked in oil of juniper, and used short drainage tubes rather than long ones, thus avoiding the possibility of the long drainage tube acting as a foreign body in the wound. Dr. Bryant also reported a case which illustrated the great ability wounds sometimes exhibit to recover rapidly when subjected to ligature by catgut. The case was one of circoid aneurism, in which a very large number of ligatures were employed.

Dr. L. A. Stimson said there was more in antiseptic surgery than the mere antiseptic. He regarded it as essential to a fruitful discussion of the subject that a discrimination be made between the different parts of the problem. It should be recognized that there are at least two distinct parts: the first deals with the cause of the complications, which the dressings are designed to prevent; the second with the properties, the extent of the various dressings, and the value of each in preventing those complications. For a man who believes that suppuration or fever occurring in the course of the repair of a surgical wound is always the result of the introduction of germs from without the question is a simple one. It is his aim to clean the wound with an efficient germicide and to cover it with a dressing which will either filter out or destroy all other germs which may be brought to it. But for the man who thinks there may be some other cause; that these complications may arise through the perverted action of the elements of the body itself; that they may be the result of local disturbances of nutrition, of tension, mobility, change of temperature, lowered or perverted vitality—for this man the problem is a much more complex one. He uses antiseptics to purify his wound, his own hands and those of his assistants, to purify his patient and his instruments, but after he has done that, after he has thus protected his patient from the dangers arising from one source, he has to employ other measures to protect him from those arising from other sources. He must have drainage, rest, and pressure, as well as cleanliness, and does not feel safe even then. There is still the unknown in the individual himself, that hidden fatal cause, whose action he can neither foresee nor avert, and it comes not only to him but also to the believer in antiseptics, and frequently enough to make that absolute confidence in their power to avert danger which men have recently expressed seem inexplicable, and action based solely upon that confidence rash almost to the verge of criminality. There is a great deal more in antiseptic dressings than the antiseptic itself, and each has many different properties, and the same properties are possessed by several in varying degrees. The test of experience alone along a single line is not sufficient to decide the question between their respective merits. Brilliant results and disastrous failure have followed each and every one, and no single man's experience has been found sufficient to cover all possible variations of disease and dressings.

Now look at antiseptics as germicides only, leaving out all topical effects. It has been demonstrated, beyond question, that the introduction into the healthy body of certain germs will cause septicæmia; and, therefore, the use of antiseptics to prevent such introduction is proper. But it has not been proved that the same disease cannot arise independently of such germs. Cases of apparently independent origin, cases of septicæmia without external wound, are known to all of us. For example, he had a hospital case, that of a man who had fallen from the top of a house, injuring his ankle, but the skin was not broken, not even bruised. There was a small wound in the small of the back, and some damage apparently was done to the nerve-trunks, shown by partial loss of sensation. Within forty-eight hours after admission the foot and leg became swollen and crepitant; the limb was amputated, and found to be saturated with brown, offensive serum, gangrenous emphysema, and septicæmia. There was no external wound, except that in the small of the back. The case could be explained on the germ theory in only one of three ways: The germs must have entered either through the skin, or through the small wound in the back, or through the lungs or alimentary canal. If through the wound in the back, then it would be necessary to dress every scratch, every pimple upon a patient's body. If they entered through the unbroken skin, a patient must be enveloped from head to foot in the dressing. If through the respiratory or alimentary tract, then no patient is safe. It was much easier for him to believe in the spontaneous production of the septicæmia, that it was due to some local change, perversion of nutrition, or defective innervation. It may seem unfair to compare such a case with wounds made by the surgeon's knife, but it seemed to him that surgeons did themselves injustice when they attributed unfavorable results, occurring under an antiseptic dressing, to lack of care, to neglect of some precaution. Such unfortunate cases happen to all, and he thought it often a more plausible explanation that the cause was in the patient, and not in a defect of the dressing.

Dr. Weir, in his interesting account of the dressings, had already pointed out one or two defects in the argument. The argument is that germs cause septicæmia, antiseptics destroy germs, the use of the antiseptic method has been followed by good results, and, therefore, the good results are due to the antiseptics and complications are due to the entrance of germs. For many years we used carbolic dressings and got good results; and then we heard that carbolic acid evaporates and that the dressings we had been using were not antiseptic. Bichloride of mercury was substituted, and again with good results. Now Dr. Weir tells us that the bichloride is untrustworthy, for it changes into calomel. All this time, too, we have been putting catgut ligatures down in the bottom of the wound, and now we know that the carbolized oil in which the catgut was prepared is not antiseptic, that the catgut was sometimes actually rotten, that it contained the very germs we wished to keep out.

Again, putrefaction has been regarded as one of the sources of the trouble. Now, take one of the dressings the use of which has been attended with good results, namely, peat. It was thought to be in itself antiseptic, and was used without previous purification, and it gave excellent results. At the present time it is usually moistened with a bichloride solution. To test its antiseptic properties Dr. Stimson had made a series of experiments; he had saturated peat with a sterilized putrescible liquid, and within forty-eight hours the liquid was swarming with bacteria, while the liquid of the "controlling" experiments was still clear. The peat itself is full of germs. No one questions its value as a dressing, but its value must be due to something else than its supposed antiseptic quality.

There are many things in antiseptic dressings besides the antiseptic, and he believed that the good results which have unquestionably followed the use of these dressings were due to these other properties quite as much as to the prevention of putrefaction.

If the exclusion of germs is all that is needed, why should drainage be used, why should not every aseptic wound be transformed at once into a subcutaneous one by primary union of the skin? He mentioned a case to show how such an attempt fails. A simple fracture does not have drainage, and yet does not suppurate; but an open wound made by the surgeon and involving the bone will suppurate nine times out of ten, despite all antiseptic precautions.

While, therefore, he believed that the antiseptic method of treatment was exceedingly valuable, he also believed that the use of the antiseptic as a preventive of septicæmia, suppuration, or fever following operative wounds or injuries is a restricted and limited one. He believed that by its use we only protect our patients from the action of specific poisonous germs, and that to it we must add other elements in the dressing. Free drainage must be established and perfect rest must be secured, together with equable compression and temperature. With the application of these principles, to the details of which it was not necessary to refer, he believed the patient was placed under the most favorable conditions for a rapid recovery to ensue. He believed, therefore, in antiseptics to purify the patient, the surgeon, the assistants, and the instruments, and then drainage, compression, and rest must be secured.

Dr. A. G. Gerster spoke of some of the points of advantage which the corrosive sublimate solution possessed over carbolic acid. It was well known that carbolic acid has a disagreeable effect upon the tissues, produces a bloody oozing which permeates the dressings very quickly, and necessitates a change of them within from ten to twenty-four hours, sometimes even earlier, and thereby one of the principles of antiseptic treatment, that is, long-continued rest, is frustrated. By the use of the bichloride solution this disagreeable feature is avoided, as the bichloride leaves a very dry wound, does not dissolve the small clots which plug the vessels that have been cut by the surgeon's knife, and favors the leaving of the first dressing for a long time before it becomes necessary to change it.

During the last six months he had used the bichloride solution almost exclusively in his service at the Mount Sinai Hospital, also at the German Hospital, and the essentials of the treatment were the same as those which had been related by Dr. Weir. It had been his desire to so simplify antiseptic treatment that antiseptic surgery could be adopted by the general practitioner. To this end he had been employing a material to which reference had not been made, and with excellent results—namely, common sawdust. After having the sawdust soaked for twenty-four hours in a watery solution of bichloride, 1 to 500, and then dried, it is put away in a tight box. Before each operation a suitable-sized bag is filled with the sawdust, and under this dressing all his surgical cases had done as well as under the most æsthetic antiseptic dressing which could be imagined. He regarded iodoform as a very valuable dressing, and it could be used by sprinkling it over the ordinary gauze, or the sublimate gauze, where it would quickly form with the blood a pasty substance, a protective more effectually excluding all external influences than any which he had seen. He also tried Spanish moss, but had not found it a very useful material so far as its absorbent qualities are concerned. It is exceedingly soft and agreeable as a dressing but it does not absorb readily. The ordinary cotton batting he had found to be a very valuable and excellent antiseptic dressing. He then referred to a case of compound fracture of the elbow-joint, occurring in an old man, with poor circulation and affected lungs. The ordinary cotton batting soaked in a bichloride solution was applied extempore, and secured in position by an ordinary muslin bandage manufactured on the spot from old sheets. The progress of the case was entirely satisfactory, the fracture progressed as though it had been a subcutaneous one; healing of the external wound occurred by first intention, and the case did very well. One reason why it did so, he thought, was because no serious injury was done to any of the more important bloodvessels, whereas it was quite possible in Dr. Stimson's case, referred to, such injury took place, and perhaps would explain the unfavorable result that followed.

He did not wish to enter upon the theory of antiseptics, but thought that all hospital surgeons admitted there had been a vast improvement in the behavior of wounds since they had been in use, in the strict sense of the word. Of course suppuration and fever had occurred in many cases after they had been used in the most careful and thorough manner, apparently so at least, but he thought the vigilant surgeon would find in nine out of ten cases the cause of his failure, and he believed it important to search for such causes, as finding them would help to avoid subsequent failures. He then referred to a case in which he incised the shoulder-joint for the purpose of removing a portion of the capsule to prevent habitual dislocation. Elevation of temperature was present on the following day, and, *without delay*, he opened the wound entirely, found three or four catgut ligatures surrounded by pus, the remainder of them not being changed, and he had no doubt whatever that the catgut carried the infection into the wound. He believed that it is not germs alone which give rise to these unfavorable symptoms; the expression is too mild, since generally the complications are due to veritable lumps of dirt. He regarded continuous vigilance as one of the very essential conditions to the success of antiseptic surgery, and believed that in most of the cases which had proved failures, and it had been said that the results were due to the fact that the spray was not used, or there was some other deficiency in the local applications, there would be found, on closer investigation, gross neglect with reference to cleanliness.

Dr. Weir, in closing the discussion, said he must agree with Dr. Gerster and also with Dr. Stimson, although both apparently took opposite sides of the question. Very many cases are treated according to the principles of antiseptic surgery which terminate unfavorably, but in the majority the reasons for their unfavorable progress or fatal termination could be found. At the same time he must say also that he had seen cases where he was unable to condemn or criticise the dressings or find want of care in their application, and yet evidence of septicæmia developed. He did not think that as yet we have absolute control of all the elements in the cases, but so far the principles had led toward the perfecting of the method of treatment. Certainly we must not be rash, and he wished to put himself in accord with those who raised a voice of warning against undertaking certain operations which are hazardous to life and from which very little is to be gained.

With regard to bismuth, mentioned by Dr. Post, he thought that it did not prevent the occurrence of erysipelas, as most of the other antiseptic dressings employed seemed to do.

The academy then adjourned.—*Record.*

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

The first annual meeting of the American Climatological Association was held at Washington, D. C., May 3d and 5th.

In the absence of Prof. Loomis, the President, Dr. F. I. Knight, of Boston, First Vice-President, occupied the chair.

The first day was occupied in adopting a suitable constitution and by-laws.

The second day was devoted to the reading of papers, as follows: Address by the presiding officer, Dr. Knight; "The Etiology of Pulmonary Phthisis," by Dr. B. F. Westbrook, of Brooklyn; "The Effects of Sea-Air upon Diseases of the Respiratory Organs," by Dr. Boardman Reed, of Atlantic City; "The Relation of Laryngeal Disease to Pulmonary Diseases," by Dr. F. H. Bosworth, of New York; "Dryness," by Dr. Charles Dennison, of Denver, Colorado, (in which he dwelt on the following points: "Variability versus equability: A rule for classifying climates as to dryness and desirability, based upon law, absolute, and relative humidities and preponderance of sunshine; the influence of elevation, sunshine, cold, etc., in producing desirable dryness; the physical effect of dryness on man"); "City Life and City Air Injurious to Consumptives," by Dr. Donaldson, of Baltimore; "The Use of Compressed and Rarefied Air as a Substitute for Change of Climate in the Treatment of Pulmonary Diseases," by Dr. J. Solis Cohen, of Philadelphia.

The following officers were elected for the ensuing year:

President.—Prof. A. L. Loomis, New York.

First Vice-President.—Dr. F. I. Knight, Boston.

Second Vice-President.—Dr. W. H. Geddings, Aiken, S. C.

Secretary and Treasurer.—Dr. J. B. Walker, Philadelphia.

Council.—Dr. J. H. Tyndale, New York; Dr. E. T. Bruen, Philadelphia; Dr. E. D. Hudson, New York; Dr. Frank Donaldson, Baltimore; Dr. Beverley Robinson, New York.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

DISCUSSION ON ALBUMINURIA, ITS PATHOLOGY AND CLINICAL SIGNIFICANCE.

A special series of meetings for the discussion of the above subject has been arranged, the first of which was held recently, when Prof. McCall Anderson, the President of the Society, occupied the chair. A large number of medical men of Glasgow and the West of Scotland, as well as visitors from a distance, attended the meeting. The President, after some preliminary remarks as to the order of the discussion, requested Dr. David Newman to introduce the subject.

Dr. Newman remarked that in the brief time at his disposal it was not possible for him to discuss the whole pathology of albuminuria; he would therefore content himself by bringing under the consideration of the meeting one or two points in connection with the relationship of albuminuria to the morbid structural changes in the kidney, and the questions which presented themselves most prominently for discussion appeared to him to be—1. Why does the urine not normally contain albumen? And 2. What are the renal changes associated with the presence of albumen in the urine, and how do they explain its absence from the urine in health, and its presence in disease of the kidney? After describing the normal structure of the kidney and the physical conditions concerned in the secretion of urine, he drew attention to the circumstance that in certain diseases the lymphatic spaces in the kidney became enlarged (parenchymatous nephritis), while in others they were obliterated and obstructed by inflammatory products (interstitial nephritis). After enumerating the various theories which had been advanced to explain the physiological secretion of urine, he supported the idea that along with the other constituents of the urine albumen filters through the glomeruli, but is reabsorbed by the tubular epithelium when the kidney is healthy. But when the nutrition of the epithelium has been interfered with and its function impaired, the albumen which would have otherwise been absorbed escapes.

He illustrated his remarks by describing two cases—one of interstitial, the other of parenchymatous, nephritis; and showed why in the former the quantity of urine was large and the amount of albumen small, whereas in the latter the opposite conditions obtained. The polyuria was explained by the fact that in interstitial nephritis the lymphatics are obliterated and the capillaries are separated from the tubules by inflammatory new formations. These circumstances interfere with the reabsorption of the watery constituents, while the changes in the epithelium permit a certain portion of the albumen to pass. The diminished elimination of urine in parenchymatous nephritis was explained by the fact that in this disease the lymphatics are enlarged, the epithelium desquamated, and the capillaries in close proximity to the urine contained in the tubules, so that osmosis towards the lymphatic and vascular systems is facilitated. The principal causes of albuminuria resulting from organic lesions of the kidney appeared to be: (1) increased tension in the glomeruli, from whatever cause arising, whether from increased afferent pressure or undue efferent (capillary or venous) resistance; (2) inflammatory or desquamative changes in the renal epithelium, the first causing an increase in the escape of albumen from the blood, and the second interfering with the proper reabsorption by the uriniferous tubules. These facts, together with the circumstance that inflammatory exudation may escape into the tubules, either from their own walls or from Bowman's capsules, when the Malpighian bodies are the seat of acute inflammation, account for most of the cases of albuminuria when the kidneys are the seat of structural changes.

Professor W. Roberts, of Manchester, said that albuminuria was met with in various diseases, and also in perfectly healthy persons, and this class of cases should be more inquired into. He would refer to two points in connection with the albuminuria of Bright's disease. 1. When albuminous urine is added drop by drop to a large quantity of water a milky trail follows each drop, and at last the whole fluid becomes opalescent. This opalescence disappears on the addition of an acid or alkali, and is probably due to the presence of globulin or paraglobulin. 2. Albuminuria associated with hypertrophy of the left ventricle is usually permanent; but he drew attention to a case which was an exception to this rule. He afterwards discussed physiological albuminuria in its various aspects, and gave an outline of the usual course of events in such cases, referring briefly to several which differed considerably from the type he had described. He believed that in a large majority of individuals there was a normal insensible albuminuria, which was only to be appreciated by the most delicate methods of testing, and regarded the so-called cases of physiological albuminuria as an exaggeration of this condition. He believed that for the detection of albumen the older methods, by heat with acetic acid and by nitric acid, were more to be relied upon, if carefully carried out, than any of those more recently advanced. He also stated his opinion that picric acid might give a reaction due to the presence of mucin where no albumen was present.

Professor Hamilton, of Aberdeen, drew attention to the fact that it had been accepted that the capillaries of the kidney, unlike those of other parts of the body, had the power of resisting the passage of albumen through their walls. He stated that Ludwig had advanced the theory that albumen did pass through the glomeruli, but that most physiologists had refused to accept this view. Heidenhain propounded the theory that the epithelium of the glomerulus had the power of preventing the escape of albumen into the tubules, although it passed through the vessels of the tuft. It was believed by the supporters of this view that the lymphatics surrounding the glomeruli carried away the albumen which had thus transuded. But he (Dr. Hamilton) did not commit himself to any of these views. Heidenhain supposed that in cases of physiological albuminuria the nutrition of this membrane was interfered with by a poison. In cases of albuminuria in valvular disease of the heart, the usually received opinion was that the albuminuria arose from retardation of the circulation in the venous system. Cohnheim, however, considered that anæmia, by causing malnutrition, encouraged the appearance of albumen in the urine. He (Professor Hamilton) thought that the older opinion was probably the correct one. He then discussed some physical experiments performed by Runeberg to show that the quantity of albumen which filtered through an animal membrane under pressure had a direct ratio to the pressure employed up to a certain point, which point being exceeded by the percentage of albumen in the filtrate diminished rather than increased, and on again lowering the pressure the amount of albumen increased.

OBSTETRICAL SOCIETY OF LONDON; H. GERVIS, M.D., President, in the Chair.

"AUVARD'S NEST."

Dr. Matthews Duncan exhibited the "nest," or "incubator," of Dr. Auvard. A similar machine had been used for some years in the Paris Maternit by Dr. Tarnier, but upon this Dr. Auvard's was an improvement. It was planned to maintain a uniform temperature. It was simple, cheap, and useful. Dr. Auvard stated that by its use the mortality of children under 2,000 grammes weight at birth had been reduced from 65 to 38 per cent. The child was placed in it clothed. The machine was kept warm by hot water-bottles, the air moistened by passing over damp sponges, and ventilation kept up and watched by a little anemometer. Any ordinary nurse could manage easily the whole matter.—Dr. Fancourt Barnes had seen a similar machine in use at the Hopital Tenon. He believed that Dr. Tarnier, not Dr. Auvard, was its originator.

HEARSON'S INCUBATOR.

Dr. Godson exhibited Hearson's incubator, and introduced its inventor, who explained it.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centiliitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus . 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51. Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14. Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9. Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

CHIAN TURPENTINE.—A. G. Vogeler (*Druggist*, May, 1884) gives a formula for the Clay's emulsion of Chian turpentine which has been invariably found to furnish a preparation perfect in every respect, and of which he has kept a sample for at least three months without any separation having occurred, while the sulphur was readily redistributed by slight agitation. The other, of course, prevents fermentation. As in all emulsions, success naturally depends upon the care of the operator. A practical way to make the ethereal solution is to employ a glass ointment jar, with screw cap, into which weigh the turpentine, first liquefying the latter in a water bath if very tenacious; then add the ether, cover well and set aside until dissolved. Frequent agitation will expedite solution. The same jar should be retained for any repetitions. To make the emulsion, take of

Acacia, powdered	4 drachms.
Water	5 fluid drachms.

Mix well, then add

Tincture quillaya (1 in 4)	2 fluid drachms.

Then gradually incorporate the following ethereal solution, prepared as above:

Chian turpentine	90 grains.
Ether, concentrated	3 fluid drachms.

Then, without delay, carefully add sufficient water to complete 15 fluid ounces. Now triturate by itself:

Sulphur, sublimed	40 grains.
Glycerine	1 fluid ounce.

And finally add this to the previous emulsion.

Dose: One tablespoonful three to four times daily.

SCABIES.—Dr. B. Frank (*Druggist*, May, 1884) claims good results from the following in scabies:

℞. Hydrargyum ammoniatum	grs. iv.
Creasote	gtts iv.
Oleum anthemidis	gtts x.
Adeps	℥i.

M. Fit ung.

Sig.: Apply night and morning for 3 days, then bathe and change clothing.

TINCTURA DENTIFRICIA.—Dissolve (*Therapeutic Review*) kino and extract of krameria, each 100 parts, in alcohol 1,000 parts, and add tincture of tolu, tincture of benzoin, oil of peppermint, each 2 parts, and oil of anise 1 part. M. S. Use as a dentifrice.

WARNER'S CORDIAL (*Druggist*, June, 1884) is an old familiar remedy in the East, and was officinal in the *Pharmacopœia*, 1870, under the term "Tincture of Rhubarb and Senna." Following is the formula: Take of, in moderately coarse powder,

℞. Rhubarb	480 grains.
Senna	120 "
Coriander	60 "
Fennel	60 "
Licorice	30 "
Raisins deprived of their seed	6 ounces.
Diluted alcohol	3 pints.

Macerate for seven days, express and filter. This preparation has been discarded in the U. S. P., '80, the sweet tincture of rhubarb of a somewhat similar composition taking its place.

IPECAC IN CHOLERA INFANTUM.—The following (*Æsculapian*) has been found of value in cholera infantum:

℞. Hyd. chlor. mite	1 grain.
Pulv. ipecac co	1 grain.
Sodæ bicarb	5 grains.
Sacch. alb	10 grains.

M. Ft. pulv. et div. ch. No. 10.

Sig.: One powder every four hours while awake.

HELIANTHELLA IN RHEUMATISM.—Dr. W. S. Newton (*Therapeutic Gazette*) advises the use of the following in rheumatism:

℞. Salicin	scr. ij.
Potass. bicarb	
Canada pitch, pulv	
Gum guiac., pulv., aa	scr. i.
Fl. ext. helianthella	20 drops.

M. Make into 20 pills. Dose: One every two or three hours.

OLEANDRINE AND APOCYNINE.—Schmiedeberg has (*Therapeutic Gazette*) succeeded in isolating from the leaves of oleander, oleandrine and neriine. Oleandrine possesses all of the characteristic effects of the digitalin group. Further, he has produced from the root of apocynine cannabinum two substances analogous to oleandrine and neriine. Chemically these bodies have this in common, they are freed of nitrogen and are not acids. These substances are identical in action with the digitalin group.

BROMINE IN CHANCROID.—Dr. J. L. Robinson (*American Practitioner*) by the use of the following mixture has obtained good results in the treatment of chancroid and indolent ulcers:

℞.	Bromine	1 part.
	Water	3 parts.
	Potassium bromide	enough to make a solution.

TURPENTINE AND MERCURY BICHLORIDE TO ABORT FELONS.—Dr. W. L. Hendershott states (*Druggist*) that the following is of value to abort felons:

℞	Ol. Terebinth	½ pint.
	Hydrarg. bichlor	½ ounce.
	Camphoræ	1 ounce.
	Aquæ ammon	½ ounce.

Mix, shake well. Apply to felon before the fire; rub and bake in well. Continue the application until pain ceases, and renew the application if pain returns.

DYSENTERY MIXTURE.—Dr. M. Streaton (*Medical Review*) advises the use of the following mixture in dysentery:

℞	Tinct. opii deod	1 drachm.
	Tinct. camph	1 drachm.
	Tinct. cardm. co	1 drachm.
	Chloroform	1 drachm.
	Am. carb	10 grains.
	Ol. wintergreen	5 drops.
	Syr. simp., q. s.	1 ounce.

M. Sig.: Twenty drops in water every three hours.

SODIUM BENZOATE IN DYSENTERY.—Dr. W. P. Watson (*Medical Record*) has had good results in acute dysentery, cholera morbus and intestinal colic, from this mixture:

℞.	Sodii benzoatis	ʒj.
	Elixirii simplicis	℥ij.

M. S.: Two teaspoonfuls at a dose.

INCOMPATIBILITY OF ZINC SULPHATE AND LEAD ACETATE.—Hallberg (*Druggist*, May, 1884) says that in the dispensing of the following prescription there is some difficulty:

℞.	Plumbi acetatis	
	Zinci sulphatas	āā ʒii.

M. et fiat pulvis. Div. in chart. no. xii.

Upon triturating the two salts in a mortar the mixture assumed a pasty consistence.

This is a common prescription, but the difficulty is readily explained. In triturating the two salts the friction produced generates some heat, which causes a chemical action to take place. The water of crystalization being liberated causes the sulphuric acid of the sulphate of zinc (being the stronger) to replace the acetic acid in the acetate and combine with the lead, forming sulphate of lead; while the acetic acid being the weaker fixes itself on the zinc, forming acetate of zinc. It is a clear case of incompatibility, but it is no doubt an intentional one. The powders are to be dissolved in water and used for an injection, in which case the acetate of zinc will be in solution, while the sulphate of lead forms a very finely-divided insoluble powder, possessing properties as a local astringent similar to preparations of bismuth. The proper manner of dispensing the prescription is to powder the salts separately, and then mix them gently with a spatula on a sheet of paper, thus avoiding all trouble.

REMEDY FOR DYSPEPSIA.—The following excellent prescription for dyspepsia is given by Dr. Alfonso in the *Medical and Surgical Reporter:*

℞. Jensen's pepsin	gr. cxcij.
Sherry wine	℥ viss.
Glycerin puris	℥ iss.
Acid tartaric	gr. v.

M. Sig.: f ʒ j, after meals.

This is three grains of the pepsin to each teaspoonful.

PRESCRIPTION FOR DIPHTHERIA.—Wm. A. Hammond, M.D. (*The Medical World*) gives the following:

℞. Mur. pilocarpin	gr. iss.
Pepsin (Jensen's preferred)	ʒ ss.
Muriatic acid	gtt. x.
Aqua	℥ viij.

M. S.: Teaspoonful every hour.

TAPE WORM REMEDY.—Dr. R. C. Hutchinson (*Pharmaceutical Record*) gives the following formula for an efficient tænicide:

℞. Pumpkin seed	120 grs.
Sugar	200 grs.
Oleo resin asphidium	2 drachms.
Decoction pomegranate bark	10 drachms.

Make a mixture. Dose: One dessertspoonful every fifteen minutes until four doses are taken, when a dose of castor oil should be administered if the medicine has not operated. The patient should take, the night before, 10 grains of calomel and a dose of castor oil in the morning. In the afternoon (after the day's fast) commence the remedy.

SERPENTARIA AND WILD CHERRY IN AGUE.—The following (*Medical Summary*) is said to answer well in ague:

℞ Fl. ext. serpentaria		
Wild cherry	aa.	℥j.
Ext. malt		℥j.
Port wine		℥j.

One-half to teaspoonful every three hours.

REVIEWS.

MEDICAL JURISPRUDENCE. By ALLAN McLANE HAMILTON, M.D. New York: Bermingham & Co. 1884.

THIS is the worst book which its author has ever written, and the readers of GAILLARD'S MEDICAL JOURNAL will remember how bad his former work was. The former was partially "borrowed" from Hammond and others, and this diluted its worthlessness. Why the book makes its appearance, unless as an advertisement, is not obvious. The "author" is not an alienist; he is not a forensic physician. The work could not have been published in Europe, unless at its author's expense, and even then not by a reputable publisher. It is worthy of the "alienist" who denied in one phase of a cross-examination that there was any hereditary insanity, and then in the next phase admitted it; who said that if the insane knew right from wrong, and could not control themselves, they should be punished. The author knows nothing of forensic medicine as practised in Europe, and less, if possible, of the principles of forensic psychiatry promulgated by Dr. I. Ray, the great light of American forensic psychiatry. He has made his book chiefly with the scissors; that is, he has inserted articles from men made "alienists" by the grace of the political machine, sandwiching in a few of his own papers. Dr. Hamilton knows nothing of the works of standard foreign authors, or, at least, has made but little use of them. With the works of Meymott Tidy, Caspar, Wharton, Stillé and Taylor accessible to English-speaking readers, there is no excuse for the appearance of such illy-digested matter as this is. No doubt, like the author's work on Nervous Diseases, the present volume will improve, if the publishers can be induced to issue a second edition.

A MANUAL OF PSYCHOLOGICAL MEDICINE AND ALLIED NERVOUS DISEASES, INCLUDING THEIR MEDICO-LEGAL RELATIONS. By EDWARD C. MANN, M.D., Member of the New York Medico-Legal Society and of the New York County Medical Society. With a Digest of Laws Relating to the Care and Custody of the Insane in each State of the Union. By WILLIAM J. MANN, ESQ., of the New York Bar. Philadelphia: P. Blakiston, Son & Co. 1883. Cloth, $5.00; sheep, $6.00.

The present work is scarcely worthy of its author. It has one distinguishing fault, and, as the book is intended for the studious practitioner, this fault, lack of unity, outweighs all its merits. Medico-legal matters are suddenly displayed to the gaze of the reader, who has up to that time been pursuing a totally different train of thought. The work consists rather of a desultory series of essays than of a systematic work. Even the classification which Dr. Mann adopts is not adhered to, but is suddenly dropped in the course of the work, and as suddenly a new and totally different one taken up. The pathological department is vitiated by a lack of demarcation between the changes produced by manipulation and lesions produced by disease. In the discussion of simulation, nothing is said of the simulation of insanity by the sane, a very important element of diagnosis. In his medico-legal teachings Dr. Mann is sound, and is strongly opposed to the disgraceful pandering to popular prejudice against the insane, which is the favorite means of acquiring alienist medico-legal practice just now. The book demonstrates the ability of its author. From it much that is of value can be obtained by a careful process which may be called dissection, but it is to be regretted that its author has not sifted and digested his material. It is to be hoped it may reach a second edition, when the author will have the chance of making a good book, for which the present volume contains the material.

Practical Manual of Obstetrics. By Dr. E. Verrier, Lecturer on Obstetrics in the Faculty of Medicine, Paris. Fourth edition, enlarged and revised, with four Obstetric Tables of Prof. Pajot. One hundred and five illustrations. First American edition with revision and annotations, by E. L. Partridge, M.D., New York. New York: William Wood & Co.

This is the number of Wood's Library for April, 1884. It is an excellent manual in every respect.

Hooper's Physician's Vade Mecum.—A Manual of the Principles and Practice of Physic with an Outline of General Pathology, Therapeutics and Hygiene. Third edition. Revised by William A. Guy, M.D., F.R.S., and John Hanly, M.D., Lond., F.L.S. Vol. I. New York: William Wood & Co., 57 and 58 Lafayette Place.

This work has reached its tenth edition abroad, and to those who value such treatises in brief it can be confidently recommended.

BOOKS AND PAMPHLETS RECEIVED.

Osteotomy for Bowlegs. By Wm. H. Carmalt, M.D., Professor of Surgery in Yale Medical College. A reprint from the *American Journal of Medical Sciences.*

Announcement of the Polyclinic and Post-Graduate Medical School, Baltimore, Md., Session of 1884.

Moral Insanity; Psychological Insanity. By C. H. Hughes, M.D. St. Louis, Mo.

Fifty-Seventh Annual Report of the Directors of the General Hospital Society of Connecticut for the Year 1883.

Iodoform in Dental Surgery. By C. T. W. Bodecker, D.D.S., M.D.S. New York. Reprinted from the *Independent Practitioner.*

Amended Constitution, Organization and List of Members of the American Public Health Association. Compliments of Irving A. Watson.

The Asylum Index and Review. Published in the interest of feeble-minded children. By Dr. T. Wilbur. Lincoln, Ill.

Claims of the Sick Poor. A paper read before the Middlesex North District Medical Society, January 31, 1884. By Nathan Allen, M.D., Lowell, Mass.

ANEURISM OF THE FEMORAL ARTERY, AND KNIFE WOUND OF THE INTESTINE. By W. O. Roberts, M.D. Reprint from the *American Practitioner*. Louisville, Ky.

SEVENTEENTH REPORT OF THE MEDICAL STAFF OF ST. JOHN'S HOSPITAL, submitted at the annual meeting, April 7, 1884, by Dr. Nathan Allen, Secretary. Lowell, Mass.

REPORT OF PROCEEDINGS OF THE TENNESSEE STATE BOARD OF HEALTH. Quarterly meeting, Nashville, April 1 and 2, 1884.

◆

MISCELLANEOUS.

PEDESTRIANISM.—In the recent pedestrian match in New York the strain on the bodies of the leading contestants after the first three days of the walk is described as being intense. Even allowing for possible inaccuracies in the description of the newspaper reporters, one is led to believe, in view of the record of the work done, that the picture drawn is not greatly exaggerated. Speaking of the man who won the race, one of the Brooklyn papers says: "His eyes were sluggish, bloodshot, and heavy, and encompassed by huge purple circles. His cheeks had so sunk in that the contour of the teeth could almost have been seen through them, and every movement was an illustration of acute agony. He swung his arms painfully, his head dropped on his chest, his shoulder blades stuck out sharply from his attenuated body, his legs dragged lamely one after the other, and the muscles of his neck twitched nervously with every step. He dragged himself steadfastly ahead, never turning his eyes to the right or left, until he came to the scorer's stand, when he painfully and laboriously turned his face toward the figures to see that they were correctly given." The change in the Englishman who held the second place is described as even more pronounced and pitiable.

CEMETERIES AND WATER SUPPLY.—In the *Star and Herald* of Panama, Dr. Wolfred Nelson, formerly of Montreal, writes on the above subjects. The native cemeteries in Panama are in a most deplorable condition. Fully one-half of the dead are buried without coffins. Coffins are secured at a small rental for the funeral; at the grave the dead are taken out, wrapped in a sheet and buried. The coffin is returned to the shop of the undertaker, in its turn to serve as a disease-producing factor. Owing to the smallness of the lot, in twelve months or less, the coffins, or bones, or both, as the case may be, are rudely disturbed to make way for "new arrivals," and are cast out of their temporary homes. Within that lot one sees scattered about coffins, pieces of coffins, bones, skulls, parts of clothing, etc. For decency's sake they are gathered together occasionally, and burned, but what of the germs? This goes on under our intertropical sun, with an average yearly temperature of 84° in the shade.

TIME REQUIRED FOR STOMACHIC DIGESTION.—The experiments that have been made for the purpose of ascertaining the time required for the digestion of different foods in the stomach have given somewhat variable results, probably on account of constitutional peculiarities in the persons who were the subjects of the experiments, or their physical condition at the time. It is desirable, therefore, that such experiments should be repeated as often as possible, in order that the mean of many results may be obtained. This would doubtless be substantially accurate, and would be useful and suggestive in many ways.

Jessen has recently made a series of such investigations, which are reported in foreign journals. The stomachs of the persons submitting to the experiment were emptied by the aid of a pump, and one hundred grams of raw or cooked meat, mixed with three hundred cubic centimetres of water, were introduced. The experiment was considered ended when the stomach pump could remove no particles which exhibited the microscopic appearances of muscular fibre. The results were as follows :

Raw and finely-cut beef	2 hours.
Partially-boiled finely-cut beef	2½ “
Well-boiled “ “	3 “
Rare roast “ “	3 “
Well-roasted “ “	4 “
Raw mutton	2 “
Raw veal	2½ “
Raw pork	3 “

The digestion of milk was examined in the same manner, a quantity of milk being used in which the percentage of nitrogen was equivalent to that of one hundred grams of beef :

602	cubic centimetres	raw cow's milk	3½ hours.
502	“ “	boiled cow's milk	4 “
602	“ “	sour “	3 “
675	“ “	skimmed “	3½ “
656	“ “	raw goat's milk	3½ “

A Pig Tale : Trichinosis.—The epidemic of trichinosis referred to a short time since, and which occurred at and in the neighborhood of Emersleben, near Halberstadt, is one of the most severe ever recorded. On September 11th last a pig was killed by a butcher named Behrens at Emersleben, and, according to law, its flesh should have been examined by the district inspector before being used as human food. On September 12th the butcher gave a slice of the meat to two neighbors, who, according to local custom, chopped it up into a fine mass, spread it on bread, and ate it raw. They both fell ill, and subsequently died. On the same day the butcher himself mixed the remainder of the meat with that of another animal, and sold the minced compound to his Emersleben customers every day from September 13th to the 19th, and all but five of them consumed it in the manner already indicated. As the result, 250 persons were taken ill, and over 40 died. The same mixture was also sold to 42 customers at Deesdorf, 42 being seized with illness and 9 dying. In one family alone, amongst the total attacked there were four deaths. Other isolated sales of the meat took place, and later on the compound was again mixed with additional fresh pork and sold to customers, of whom 80 sickened but without fatal result. At first the cause of the epidemic remained a mystery, and it was not until at least 150 persons had sickened that its true origin was discovered. The details of the outbreak have been published in Germany, in Paris, and elsewhere, the French account being prepared, as the result of local inquiry, and with great care, by Dr. Brouardel. According to his investigations, it would appear that the trichinæ contained in the meat mixture appeared most potent for harm when consumed within about twenty-four hours of the death of the animal, 33 per cent. of those who partook of it within that period dying in consequence ; also that the activity of the meat for mischief gradually decreased day by day after the first period of 24 hours, until, when the sixth day was reached, sickness, without a single death, alone supervened. Sex does not appear to have influenced the results, but, according to the belief of the medical men in the district, children resisted the influence much better than adults, whereas old people suffered most. Whether at Emersleben the meat was really examined before it was consumed can hardly be ascertained, but it is certain that both the butcher and the inspector partook of some of it, for they both suffered seriously in consequence. Trichinæ were, however, discovered in the minced material at a later stage. There can be no question that the habit of eating the flesh of pigs in a raw state constitutes a great danger to the population of Germany, and few outbreaks could bring this point home more decidedly than the one now under discussion. It has already been said that five persons who had consumed the meat at Emersleben did not eat it raw. These five persons, together with a servant, for the household of the mayor, and although the meat was used in his family it was made up into sausages, which were boiled before being served up. The result was that the family escaped. The servant, however, who partook of the same meal, fell ill, and she admitted that before the sausages were cooked she had spread some of the chopped meat on some bread and butter, and had eaten it as a sandwich. This habit of eating raw flesh is universal in the district, and the only safeguard afforded to the people is the appointment of such inspectors as a barber at Emersleben and a peasant at Deesdorf. To such men are entrusted microscopic examinations, and this at a fee at times not amounting to more than a few pence.—*Lancet.*

The Edinburg University has, at the present moment, 1,700 medical students, quite as large a number as it is possible for it to teach.

The Danger of Hypodermic Injections of Chloroform.—At the meeting of the Académie de Médecine on February 12th, M. Bouchard made a contribution of much practical interest. For some years he had observed that hypodermic injections of one cubic centimetre of chloroform in rabbits invariably produced death within about twenty-four hours. Much smaller injections, if repeated daily, also produced death eventually.

A Very Diminutive Baby.—Near the little village called Enon, 10 miles southeast of Fort Worth, lives Mr. P. J. Manning, whose wife gave birth to twins. Dr. Chambers says that the eldest, when born, weighed about one and a quarter pounds, and the other about five and a half pounds, a plump child. The smaller of the two could have been placed in a glass tumbler with ease. Its legs are not as large as a man's index finger, and its length would not exceed that of the entire hand.—*Fort Worth* (*Texas*) *Gazette.*

To overcome the unpleasant odor of anæsthetics add a few drops of oil of cloves to chloroform, or one-sixth part of cologne to ether, as they are being inhaled.

Method of Removing Nasal Polypi.—Dr. William Ralph Bell, *Can. Med. Record*, Feb., 1884, says : "I take the liberty of bringing the mode of treatment before the notice of your readers which I have practiced, with the very best results, in several cases. It obviates any trouble from hæmorrhage, which is frequently the case when the forceps or hook is used; it is painless, and very simple. I get my patient to blow strongly through the affected nostril, closing the other with his finger. The polypus will be brought down so that it can be easily seen through the external nares; then with my hypodermic syringe charged with a solution of tannic acid in water (of the strength of twenty grains to the fluid drachm), I pierce the polypus with the needle, and inject ten, fifteen, or twenty minims of solution, according to size of tumor. In a few days the polypus shrivels and drys up (tanned) ; it comes away without any trouble or pain, and looks like a clot of dry blood, my patients usually removing it by blowing the nose, or by their fingers. In only one case, that of an old lady, had I occasion to remove it myself, and in her case I think she was afraid to do so, for when I seized it with the dressing-forceps I was required to make no traction to bring it away."

The Broca Prize.—Mme. Broca offers a prize of 1,500 francs, to be given by the Anthropological Society of Paris, for the best memoir on a question concerning human anatomy, comparative anatomy or physiology, bearing on anthropology. The first prize will be awarded in April next.

Professor Ernest Haeckel, of Jena, has been appointed an honorary member of the Asiatic Society of Bengal, on the occasion of its hundredth anniversary.

The Narcotic Religion.—A sect is said to have been discovered at Rostov, in South Russia, whose object is the poisoning of children by narcotics. It is believed to owe its origin to a woman who murdered her children "in order to deliver them from earthly suffering, and to procure for them celestial happiness."

The Cure of Inebriety.—An association with this object has been in operation in America since 1879; but only on March 24th was a similar association constituted in England. At a meeting held in London on that day, a new society, entitled the "Society for the Study and Cure of Inebriety," was formed to "investigate the various causes of inebriety, and to educate the professional and public mind to a knowledge of these causes, and to recognition of the physical aspect of habitual intemperance."

The Deaf and Dumb.—The Queen of Tahiti, who is at present in Paris, lately paid a visit to the Institution for the Deaf and Dumb in the Rue St. Jacques, and made the remark that she had never seen a deaf-mute in Tahiti, as this infirmity has up till now been unknown in the island.

The British Medical Association.—The fifty-second annual meeting will be held at Belfast on July 29th and three following days. The President elect is Dr. James Cuming of Belfast. The Address in Medicine will be delivered by Sir Andrew Clark, the Address in Physiology by Dr. Peter Redfern, and the Address in Obstetrics by Dr. G. H. Kidd of Dublin.

Professor Frerichs.—At the completion of the twenty-fifth year of his holding office as a professor in the University of Berlin, Professor Frerichs has been raised to the rank of a noble.

The Architecture of a Bone.—A lecture was lately delivered at the London Institution on "How a Bone is Built," by Mr. Donald McAlister, of St. John's College, Cambridge. The lecturer explained that he would treat the construction of a bone as a question of architecture or engineering rather than anatomy. In looking at an ordinary marrow bone two points would strike one: In the first place, the shank or shaft of the bone was hollow, forming a somewhat thin walled tube; secondly, the end of the bone next the joint appeared on section to be not hollow, but filled with a spongy or "cancellous" meshwork of bony tissue. The tube form appeared not only in bones but in many other structures characterized by combined lightness and strength—such as the stalks of plants, reeds, bamboos, quills of feathers; and among human constructions in a vast variety of shapes, from tubular bridges to backbones of bicycles or tricycles. What was the common principle underlying all these manifold varieties? Why was it that, weight for weight, a hollow column was so much stronger than a solid one? The lecturer then showed that when an ordinary rectangular crossbeam was slightly deflected by a load, the upper fibres were in a state of compression, while the under fibres were in a state of tension; whereas in the middle of the beam there was a neutral region neither compressed nor stretched. For load-bearing purposes this region might be removed; the beam would thereby be made appreciably lighter but not appreciably weaker. The tube form of a bone was thus due to the fact that the material was concentrated at those parts which were most under strain and where it was most useful; it was removed from those parts where it added to the weight without adding to the strength. Tables were exhibited from which it appeared that bone in its physical properties resembled steel much more than such a material as cast iron. Bone, like steel, was almost as strong to resist tearing as to resist crushing. The spongy or cancellous ends of bone were next considered, and by photographs of actual specimens the lecturer showed that the apparently confused and irregular character of the tissue resolved itself on examination into a very beautiful and harmonious regularity. In the construction of such great structures as the Forth Bridge and the large cranes seen at the docks, engineers had found it useful to investigate the lines of the structure along which the pressure or the tension was at a maximum; these lines might be called stress lines *par excellence.* The material at disposal was most economically arranged when it was concentrated along these lines, leaving empty the mesh-like spaces corresponding to the neutral region of a cross-beam. A skeleton or lattice framework might thus be built up, having all the strength of a solid structure of the same shape or loading, but with much less expenditure of substance. Such a structure would, moreover, be free from the danger of giving way by "shearing" or "faulting" in the geological sense. In other words, its parts would have no tendency to give way by sliding or slipping over each other; they could only be directly crushed or directly torn asunder. This was, therefore, an ideal mode of building such structures, and it was only because skilled workmanship was more expensive than material that engineers did not oftener put it into practice. In bone building, the lecturer said, there were no such obstacles in the way of perfect construction, and in such a part as the head of the thigh bone the principle was carried out in ideal perfection. The cancellous network in this bone was a material embodiment of the engineer's ideal lattice work of true stress lines, so much so that in the Zurich School of Engineering thin sections of the thigh bone were placed before the pupils as the best possible illustration of the true principle of construction!! In conclusion, the lecturer remarked that when such instances of adaptation as appeared in the eye and hand, and perhaps he might now add the common marrow bone, were brought before us we were filled with wonder, and some saw in them evidences of what was called direct design. These evidences might nowadays be interpreted in perhaps a worthier and grander sense, but the wonder would remain for all who had eyes to see.—*Scientific American.*

THE American Association for the Advancement of Science will meet in Philadelphia on Thursday, September 4. The members of the British Association are to have a reception in Montreal, Canada, on the evening of the 3rd of that month, and they are expected to attend a reception in Philadelphia on the evening of the 5th. The Royal Society of Canada is also to be invited to attend.

THE INSANE WITNESS.—The United States Supreme Court has recently decided that a lunatic, or person affected with insanity, is admissible as a witness if he have sufficient understanding to apprehend the obligation of an oath, and to be capable of giving a correct account of the matters which he has seen or heard with reference to the question at issue; and whether he has that understanding is a question to be determined by the court upon examination of the party himself, and any competent witnesses who can speak to the nature and extent of his insanity.

The Use of Collodion in Acute Orchitis and other Conditions.—Collodion is not adequately appreciated and utilized, according to Dr. Gamgee (*Bermingham Medical Review*, January, 1884). Its ready evaporation and contraction give it the dual antiphlogistic power of refrigeration and compression. In acute orchitis, for example, Dr. Gamgee knows of no plan of treatment so simple, rapid, and satisfactory as coating the cord and scrotum with layers of collodion by the aid of a camel's-hair brush. The sensation is momentarily sharp, the shrinkage rapid, and so is the subsidence of the inflammatory process. To swollen parts which cannot well be bandaged, collodion is especially applicable for the compression attending its contraction. When the nasal bones are fractured, a very effective mould for keeping them immovable, after adjusting them with the fingers, may thus be made; place over the nose a thin layer of absorbent cotton soaked in collodion; as it dries, another layer of cotton and more collodion, taking care that the application extends sufficiently on each side to give buttress-like support. The patient compares the feeling to the application of a firm bandage on the nose, and the bones consolidate effectively under the shield, which may be renewed as it cracks and peels off.—*N. Y. Med. Rec.*

Abdominal Wounds.—When the abdomen has been pierced by a narrow instrument and the bowel does not protrude, the true nature of the case must be solely matter of conjecture. Perforating wounds may occur and the abdominal contents be not interfered with. The two principal signs which must serve to guide us in these uncertain cases are tympanites and a discharge of blood by the anus. The occurrence of tympanites is unquestionably a symptom of great value. Jobert, who was the first to notice it, regards it as the most reliable of all the phenomena when there is no escape of fæces, mucus, bile or other fluid at the abdominal wound, and in this opinion the results of my personal observation fully coincide. The tympanites supervenes at various periods, sometimes almost immediately after the wound in the bowel has been received, and is then always of proportionate diagnostic value; at other times it supervenes very gradually, and in some cases, again, it does not make its appearance under twenty-four, thirty or thirty-six hours. However this may be, it is always diffused, not circumscribed, and sometimes reaches an enormous height, the belly emitting a hollow, drum-like sound on percussion, and is then always very painful.

A Plea against Prophylactic Injections after Normal Labor.—Dr. Baruch, under this title, protests, in a paper published in the *New York Medical Journal*, January 5th, against the practice, now becoming prevalent, of employing antiseptic injections after normal labor, for the purpose of prophylaxis. "Sanctioned as it is," he says, "by some of our highest and most justly eminent authorities, the use of prophylactic injections in the puerperal period will surely become a general practice, if the subject be not calmly discussed in the light of experience. If I have roused attention to the danger which threatens the puerperal woman of the future from this practice, I shall be content. Nothing but a strong sense of duty has prompted me to venture to differ from men whose views I have always regarded with respect, from whom I have learned much in the past, and by whom I expect to be guided largely in the future, when their teachings do not conflict with the results of experience and common prudence."

The German Samaritan Society has, it is stated, sent out a number of young physicians to teach the crews of lifeboats on the coasts of the Baltic and North Seas, and others, how to carry out the directions of the Humane Society in cases of drowning.

THE PROXIMATE PROTEID CONSTITUENTS OF THE WHITE OF EGG—A PRELIMINARY NOTE. By EDWARD T. REICHERT, M.D., Demonstrator of Experimental Therapeutics, University of Pennsylvania.—For many years the white of egg, after being freed from its membranous net-work, was considered to be an almost pure egg-albumen; but the comparatively recent researches of Lebonte, Goumœns (*Journ. de Pharm.*, 3 s., xxiv. 17) and Scherer show that this belief is not true. Lebonte and Goumœns found that the white of egg is a mixture of two albuminous bodies, one being soluble and the other insoluble in glacial acetic acid, while Scherer observed that if a small quantity of acetic acid were added to the white of egg to neutralization, and the mixture diluted with a large amount of water, a flocculent precipitate occurred; that the precipitate was soluble in a small quantity of potassic nitrate or sodic chloride, and that these solutions were coagulable. Recent researches of my own go a step beyond this, and determine that the body which is insoluble in acetic acid is a globulin. I have, moreover, made the very remarkable discovery of the existence of a third albuminous constituent in the white of egg, which possesses the extraordinary property of not being precipitated in weak alkaline solutions by mercuric chloride. This body is no doubt a peptone, since it gives the Xanthoproteic and Millons reactions, and is not precipitated or coagulated by boiling, nor precipitated by strong nitric acid, carbonic acid, sodic chloride, cupric sulphate, or ferric chloride. It is precipitated by tannic acid. There seems to be still another proteid present which is not coagulated by boiling, unless the solution has been previously neutralized, and which is precipitated by strong nitric acid and mercuric chloride. The dialysate of the white of egg gives the Xanthoproteic reaction. The existence of a peptone in the white of egg is doubly interesting, since this is only the third peptone ever discovered as existing as a natural constituent of a secretion—the first having been discovered in milk, and the second by Dr. S. Weir Mitchell and myself as existing in the venoms of various snakes. These results are of such importance that I have felt justified in announcing them in advance of the completion of the study of these bodies.—*Medical Times.*

JAPANESE MEDICAL JOURNALS.—There are said to be twelve medical periodicals published in Japan.

DR. ALFRED L. CARROLL, of Staten Island, has been chosen to succeed the late Dr. Elisha Harris as secretary of the New York State Board of Health.

SHOOTING IN THE ARMY.—At a recent day, in experimental firing of every description at Strensall, York, England the 1st Volunteer Battalion, Lancashire Fusiliers, were ordered to fire with both eyes open at a range of dummy soldiers, and to keep their eyes fixed on the enemy, who were supposed to be making a rush on the position defended by the Volunteers. Eight rounds were fired in sixty-seven seconds, and 38 per cent. of the shots struck in the dummy figures. Taking into consideration the rapidity of the fire, these results are highly satisfactory, and afford strong support to the arguments of those who advocate two-eyed shooting.—*Lancet.*

SIR LYON PLAYFAIR, K,C.B., M.P., has accepted the presidentship of the British Association for the meeting in Aberdeen in 1885. The selection of Sir Lyon Playfair is in every way a happy one, and augurs well for the success of the meeting.

HYGIENE IN CANADA.—It is proposed to establish in Montreal a *Journal of Hygiene*, to be the organ of the Canadian Sanitary Association.

Brittle Bones.—"I will now try to tell you what I can about my numerous accidents. The whole number of breaks is eighteen. I can remember fourteen of them. Mother thinks the first was the left arm at the elbow, caused by stumbling against the stove zinc when I was eighteen months of age. Then occurred a few breakages about the location of which we are uncertain. After these came a fall from a chair, breaking my right collarbone, which I remember very well, although then hardly three years old. At four years of age stepped backward from a door-step, breaking my left leg between the knee and ankle. Before I was five, fell on the carpet and broke right elbow. A few months afterwards broke right elbow again. At eight had broken each arm again at the elbow, one of these caused by a fall from a swing, and the other at school. As soon as possible after these breaks I slipped on a wet plank and broke right leg between knee and ankle. Before this was well I tried to walk a little while mother was out and broke the same leg again at the same place. When a little past nine years of age I fell on a stone sidewalk and broke the right elbow, or rather the ends of both bones about one inch below the joint, dislocating them, and injuring the shoulder so that I can still turn my arm with the point of my elbow in front. It was not set, but makes a useful arm after all. I had no more accidents, except a sprain or two, until I was thirteen, when a little dog ran against me and then I fell on the pavement and broke my left collarbone and some other bone about the shoulder. At fourteen broke one of the bones between the elbow and wrist. At eighteen fell through a hole in the sidewalk and broke the point of right elbow, and this made quite an improvement in the looks of it. At eighteen a mischievous horse chased me. I ran, and on reaching the plank walk stopped so quickly that my left ankle was broken through the joint. That was the worst break I ever had, and I was lame a long time after it. These are all the accidents I can remember. Mother kept an account of the number. The summing up is: The right arm, broken nine times; the left arm, twice; left leg, three times; right leg, twice; right collar-bone, once; left, once. Total, eighteen. I used to be extremely lame and suffered very much on going to school, especially in winter when the walking was rough by reason of ice, or any inequality of surface, and any slight twist or wrench of my limbs would cause extreme pain. Since I have attained my growth I have been much better, and I have met with no accident for fourteen or fifteen years, except while in Boston I sat down before I was quite ready. It may be of interest to you to know that my father broke his bones fourteen times, a cousin of his twenty-one times, and the latter suffered from breaks after he was quite an old man. My father's paternal uncle was also a bone breaker."—*Boston Med. and Surg. Jour.*

Iodoform Collodion.—Iodoform, ten parts; collodion, ninety parts. To be applied with a camel's-hair brush; the wound being held shut until it dries. For wounds in exposed situations.—*Coll. and Clin. Rec.*

Bismuth Breath.—Wm. Reisert, Ph. G., has been experimenting with bismuth in order to discover the cause of the so-called bismuth breath. Perfectly pure bismuth oxide did not produce the garlicky odor, nor did arsenious acid. Tellurium he found to be undoubtedly the offending agent. One dose of 1-125,000 of a grain of telluric oxide produced a perceptible garlicky odor in seventy-five minutes, and it lasted for thirty hours.—*Am. Drug.*

Poor Nussbaum is such a cripple that he cannot walk without the aid of an assistant, and is wheeled through the hospital in an invalid's chair. He is a sufferer from hip-joint disease, has had his legs and his back broken. His pinhole pupil and absent-minded dreamy style would seem to indicate that he was under the influence of an opiate. All in all, he is a peculiar and remarkable man. Every one about him seems to love and honor him, and his treatment of us was more than polite. As he was conducted from his wheeled chair and led upon the arms of two assistants through the wards, patients thanked and blessed him, and once or twice kissed his hand. He speaks in an absent-minded way, often repeating his words over and over, and is profuse in expressions of tenderness to all about him. He is a great admirer of Lister, whom he says has made the only grand discovery in surgery during the past decade.—*N. W. Lan.*

Philanthropy in Congress.—The fact that Congress with the minimum amount of solicitation made an appropriation of $50,000 to restrict the spread of the " foot-and-mouth disease " (ergot poisoning) among the cattle of Kansas, is a very practical commentary on the estimate in which cattle and human life is held by the people. Let a disease (whether fatal or not fatal matters very little) make its appearance among such animals as are chattels, and at once money is promptly forthcoming to provide for such scientific investigation as may result in eradicating it. Let a disease which numbers vastly more victims (as diphtheria, scarlatina, etc.) make its appearance in a community, and how grudgingly is the money necessary for the carrying out of the proper sanitary improvements, looking to its eradication, furnished. " The health of the people is the supreme law," is a pretty saying, and true in the abstract, but the practical recognition of the truth of it is difficult to secure among those who are well. $50,000 with which to fight a disease among the cattle of a single State, but the appropriation for the National Board of Health was cut off, and at a time, too, when the threatened invasion of cholera makes the necessity of such work as the Board was engaged in all the more pressing. Millions for our cattle, but not one cent for the people. Alas that (human) flesh and blood should be so cheap!—*The Medical Age.*

MEDICAL NEWS.

Dr. J. P. Madden died recently at Bozeman, Montana. The physicians held a meeting, passed proper resolutions, and were handsomely addressed by Dr. W. L. Steele, who descanted feelingly upon the merits of the deceased, and upon the trying, if distinguished life of the active physician. Dr. Madden was formerly a resident of Tennessee, but had, during his brief sojourn in Montana, made many friends among the people and the profession.

Dr. John G. Adams.—Dr. John G. Adams left this city for a visit to Europe on May 14 last. He was apparently in perfect health and good spirits. His friends received a despatch from Liverpool, June 23d, announcing the death of Dr. Adams at the Adelphi Hotel, in that city. It is conjectured he was taken ill during the voyage, and died soon after his arrival in Liverpool. He had lived several years at the Park Avenue Hotel. Dr. Adams was born in this city August 12, 1807. His ancestors were from the North of Ireland. After obtaining an academic education in Yale College, he entered the College of Physicians and Surgeons in this city, and received his degree in March, 1830. He was physician to the New York City Dispensary for two years, and for several years was Surgeon of the St. Nicholas Society. He was a member of the New York Academy of Medicine, of which he was secretary for ten years. He was also the first president of the New York Medical and Surgical Society. He is the author of a memoir on the "Life and Character of Alexander H. Stephens, M.D., LL.D.," which was read before the New York Academy of Medicine in 1871, and of a memoir of Dr. Jacob Harsen. A thesis on "Morbus Coxarius," written by Dr. Adams, was published in the *Journal of Medicine.* He edited, in 1852, the *New York Medical Times*, of which four volumes were published.

THE United States Senate has passed a bill providing for the erection of a fire-proof building in Washington for the records of the Army Medical Department.

A REMOVAL.—Dr. Edward W. Jenks, who for several years past has held the chair of gynæcology in the Chicago Medical College, announces that reasons of a domestic nature induce him to return to Detroit, where he will re-establish his private hospital so soon as the necessary arrangements can be completed.

THE South Carolina Medical Association held its Thirty-fourth Annual Meeting at Florence on April 22nd, 23rd and 24th. The meeting was well attended and interesting in character. The Association will meet next year at Charleston. The following officers were elected: President, Dr. A. A. Moore, of Camden. Vice-Presidents, Drs. C. Kollock, of Cheraw; James Evans, of Florence, and T. J. McKee, of Woodlawn. Recording Secretary, Dr. John Forrest, of Charleston. Corresponding Secretary, Dr. H. D. Fraser, of Charleston. Treasurer, Dr. H. W. De Saussure, Jr., of Charleston.

DR. R. BARTHOLOW claims that tannate of cannabine is second only to opium, and is the nearest approach to a substitute for the latter yet proposed.

DR. GEORGE B. FOWLER has been elected professor of physiological chemistry in the New York Polyclinic, and Dr. T. Gaillard Thomas has been elected a director in the same institution.

THE friends of Dr. Wm. S. Forbes have issued a circular calling upon the medical profession to subscribe money to pay the bills incurred by him in defending himself against a suit for complicity in body-snatching. He was demonstrator of anatomy in Jefferson Medical College of Philadelphia. The suits cost him about four thousand dollars. Of course it is right to offer contributions for this purpose, but the Jefferson Medical college should meet all the expenses. It was in service of the institution that this trouble came upon Dr. Forbes, and its honor quite as much as his own is involved in the suits. Instead of Jefferson helping him, the appeal for help is headed by Prof. D. Hayes Agnew, professor of surgery in the Medical Department of the University of Pennsylvania.

DR. HOMANS of Boston has performed ovariotomy during the past year twenty-seven times without losing a single patient.

SIR LYON PLAYFAIR, in the British House of Commons, said there was a district in London containing a population of 278,000 to the square mile.

A case of death from the inhalation of ether occurred at a clinic at Bellevue Hospital recently. The patient was a boy with apparently sound lungs and heart. He was under ether for about an hour and a half, when he suddenly ceased to breathe, and all efforts at resuscitation failed.

Poisoned Brass Beer Faucets.—Dr. Cyrus Edson, Chief of the Second Division of the City Board of Health, has made an examination of a brass beer faucet which he had seized for sanitary investigation. Upon bisecting it longitudinally, he found that it was literally coated inside with verdigris—enough to kill a dozen men. Such being the case, he will report his discovery to the Board of Health, who will take action upon it, and, if necessary, prohibit the sale of beer through such faucets.

The "Faith-Cure" and the Church.—An Episcopal clergyman sojourning in New York having declined to employ a surgeon for the relief of his daughter, who had sustained a fracture of the arm, relying implicity, as he said, on a professor of the "faith-cure," the assistant bishop of the diocese has administered a kindly but effective rebuke, which, in conjunction with legal proceedings brought by the Society for the Prevention of Cruelty to Children, has resulted in regular medical attendance being afforded to the child.

Guilty of Manslaughter.—Worcester, Mass., May 28.—The jury in the case of Dr. Franklin Pierce, an advertising quack, who has been on trial for manslaughter in causing the death of a female patient by packing her in cloths saturated with kerosene oil, rendered a verdict of guilty recently after being out 20 minutes. The case goes to a higher court on exceptions.

The Medical Society of the State of West Virginia has elected the following officers for the ensuing year: President, Dr. George Baird, of Wheeling; Vice-Presidents, Drs. T. A. Harris, of Parkersburg; R. R. Frey, of Terra Alta, and S. H. Austin, of Lewisburg; Treasurer, Dr. John A. Campbell, of Wheeling; Secretary, S. L. Jepson, of Wheeling; Board of Censors, Drs. J. H. Manown, L. C. Hunt, J. H. Brownfield, J. O. Wall, J. M. Bowcock, W. J. Bland and B. W. Allen. The society will meet next year at Weston.

New Method in Adherent Placenta.—Dr. J. Field, of Kansas City, reports that in six cases of adherent placenta he has saved the woman by pumping cold water through the umbilical cord. In one case the patient was in convulsions when the afterbirth came away.—*Medical Record.* [Dr. W. O. Baldwin, of Montgomery, Ala., did this ten years ago and reported the facts in this journal.—Ed.]

New Jersey State Medical Society.—At the annual meeting of this society, held at Cape May on June 10th and 11th, the following officers were elected for the ensuing year: President, P. C. Baker, M.D., of Morristown; Vice-Presidents, Drs. Joseph Parrish of Burlington, Charles J. Kipp of Newark, and J. W. Ward of Trenton; Corresponding Secretary, Dr. William Elmer, Jr., of Trenton; Recording Secretary, Dr. William Pierson, Jr., of Orange; Treasurer, Dr. W. W. L. Phillips of Trenton.

A New York philosopher maintains that, if all the young men in the city were to give up smoking for an afternoon, there would be money enough to supply the children with as much fruit as they could eat all day, together with a choice of three medicines next morning, in case they got ill.

American gynæcologists are divided by a London cynic into two classes: 1, those who slit the cervix; 2, those who sew it up.

The Illinois Medical Practice Act.—Recent decisions in two cases—one under the Act to Regulate the Practice of Medicine in Illinois, the other under the Dental Surgery Act—sustain the right of the Board of Health to determine the status both of a college and of a practitioner.

The contagiousness of consumption has gained substantial recognition in New York; certain wards in Charity Hospital are to be set apart for the isolation of consumptives!

Dr. Gross bequeathed, by his will, his medical library, museum and diagrams to such one of the three following institutions as his executors might elect: Jefferson Medical College, the Philadelphia Academy of Surgeons, or the College of Physicians, of Philadelphia. Should either of these decline to receive the bequest it shall be tendered the University of Pennsylvania or the New York Academy of Medicine. He provided also the sum of $5,000, which should be so invested that its proceeds should every third year furnish a prize for the best original essay illustrative of some subject in surgical pathology.—*Age.*

The published report of an English benevolent society says: "Notwithstanding the large amount paid for medicine and medical attendance, very few deaths occurred during the year."

The Dose of Hydrobromic Acid.—Hydrobromic acid must be used in much larger doses than has been customary, if any benefit is to be derived from it. Such is the opinion of Dr. H. C. Wood who has been using this drug recently in epileptic cases. He found, in three instances, that half-ounce doses of the officinal hydrobromic acid were much more effectual than equivalent doses of bromide of sodium or potassium, and not nearly so liable to produce symptoms of bromism. He gives the acid after meals, with syrup, and diluted with half a pint of water.

Valid Accounts.—It is of importance that physicians keep their accounts so that they would be sustained in court. A recent decision by Judge Ashman, of Penn., maintained that only such accounts were valid as showed an entry of each visit, the price therefor, the value of medicines furnished, with the name of the patient. The signs used in ordinary visiting can only serve as memoranda from which to make charges.

Vaccination.—At Leicester, in England, a few weeks ago, the goods of 20 persons who had declined to pay the fines imposed upon them for the non-vaccination of their children were sold at public auction. Fifty policemen were present to protect the auctioneer. Though the sale was very disorderly, no violence was used.

Dr. Thomas C. Chalmers, one of the oldest physicians of this city, died at his residence, No. 25 West Seventeenth street, June 4, after a short illness. He was born at West Galway, Saratoga County, this State, June 18, 1810, and was graduated with high rank from Union College. He came to New York in 1834, and for many years was connected with the New York Hospital.

While in Calcutta, Dr. Koch, of the German Cholera Commission, found the cholera bacillus in the water of a tank from which many of the natives who had been afflicted with the Asiatic scourge had drawn their supplies of water for drinking and cooking purposes.

The Dwight Insurance Case.—A telegram from Norwich states that the Mutual Benefit Life Insurance Company of New Jersey has just paid the two policies of insurance of $5,000 each which were taken out by the late Col. Walton Dwight.

The progress of cremation is attested by a project for building a crematory at Bordentown, N. J., the idea being that it will be within easy reach of both New York and Philadelphia.

Dr. Robert Koch.—A newspaper sketch of the distinguished discoverer of the bacillus of tubercle and of cholera describes him as a man of medium height, thin, gray-haired, with a serious, spiritual countenance. He looks much older than he is—forty-one.

Dr. William Pepper, Provost of the University of Pennsylvania, has been elected to the chair of the Theory and Practice of Medicine in that institution, made vacant by the resignation of Dr. Alfred Stillé. His father, whose namesake he is, formerly held the same position.

A committee of the Royal Medical and Chirurgical Society of London appointed to examine the micro-organisms forwarded by Dr. Strass, of the French Cholera Commission, reports an inability to discover anything peculiar in them, as they are identical with germs commonly seen in ordinary diarrhœa.

The fifth International Congress of Hygiene will meet at the Hague, August 21 to 27, 1884.

The Old Story made New.—Dr. H. C. Wood, at the recent meeting of the Pennsylvania State Medical Society, declared his disbelief in the specificity of diphtheria. The diphtheria-micrococci, so-called, he said, could be found in the natural saliva, and he had found them in great abundance in sloughing sores, gangrenous wounds, etc. He now holds diphtheria to be simply a putrid or septic sore throat.

Bellevue Hospital Medical College, New York, has decided to issue its diploma hereafter in English instead of Latin.

Congenital Absence of One of the Mitral Valves.—Dr. E. F. Cordell reports a case of this rare affection, all the other valves being perfect. The mitral insufficiency was diagnosticated before birth from the peculiarity of the fœtal heart sounds (?). The child died shortly after birth, and the autopsy revealed the deformity.—*Medical News.*

Death of Dr. A. Blondeau.—The death of Dr. Blondeau, member of the editorial staff of *Le Progrès Médical* is announced.

Hippocratic Tree.—At a recent meeting of the Berlin Medical Society, Professor Virchow showed photographs of a gigantic plane tree in the island of Cos, under the shade of which Hippocrates is said, by tradition, to have held medical consultations. The tree now stands in the market-place of the town of Cos, on the east side of the island. The branches, which spread over nearly the whole of the market place, are supported by marble pillars.

An Old Public Functionary.—The Paris correspondent of the *Lancet* states that, after a service of more than half a century as director of the Gobelins manufactory, M. Chevreul has been placed on the retired list. In consideration of his great services the illustrious chemist has been allowed to retain the full salary, but such is the wonderful juvenility of which he appears conscious, that, although only wanting two years to become a centenarian, he is said to resent his retirement as premature.

An Infant Secretes Milk.—Dr. Lesnewich reports in the *Paris Medical* the case of a male infant, aged ten months, that secretes milk in considerable amount. The infant has well-developed mammary glands.

Exit National Board of Health.—The abolition of the National Board of Health which is provided for in the sundry civil bill has been foreshadowed for some months past. In fact, for about a year the Board has had only a nominal existence, having no funds for the continuance of the scientific investigations previously forming so important a part of its functions and its quarantine duties having been transferred to the Marine Hospital Service.

Virchow says that the German Government ought to prohibit the rearing of any swine in all Germany, as the danger of trichinosis from German raised pork is far greater than from American pork, and the latter has been forbidden.

Dr. F. Wilson, of Louisville, Ky., has used with success the inner membrane of a hen's egg for skin-grafting. One egg will supply an indefinite number of grafts.

Dr. Joel Foster, one of the oldest practising physicians in this city, died in June at his residence, No. 265 Fourth avenue. He had been ill for about a month and a half, but was not confined to his bed.

A Dentist's Bill.—All are laughing at the story of a heavy bill which a dentist sent to General Blanco, the Venezuelan President, for professional work for Mrs. Blanco and two of her daughters. The three ladies, acting on the advice of a friend in this city, went to Dr. Atkinson, at No. 41 East Ninth street, and arranged with him for treatment. A bill was sent to President Blanco, charging $7,000 for the service. He was somewhat astonished at what he believed to be an enormous price for four days' work, and showed the bill to a friend. The friend was likewise astounded.

An Eater of Opium.—A Norwich doctor was called to a frightened family to attend to the head of the house, who had swallowed one ounce of laudanum. The laudanum-taker was cool and collected when he arrived, and informed the physician that there was nothing suicidal about the act. He had merely taken less than his daily dose and needed no assistance. He said he had been in the habit of taking 70 grains of opium daily for twenty years, and could stand a fluid ounce of laudanum without any unpleasant effect, and had done so repeatedly. He was left to himself, the doctor departing without using antidotes or his stomach pump.

Limbs of Unequal Length.—A writer in *Nature*, a member of the Royal College of Surgeons, mentions that of seventy well-authenticated skeletons he examined, the lower limbs were equal in length in only seven instances, the right limb being longer in twenty-five and the left limb in thirty-eight cases.

Bi-Sulphate of Quinine.—The United States Army this year contracted for 8,000 ounces of bi-sulphate of quinine, and thus far has not bought any of the ordinary sulphate. The fact that the ready solubility of the bi-sulphate enables it to be dispensed in aqueous mixtures, as well as the equally well-ascertained fact that this ready solubility renders its action more prompt and certain, are probably two of the chief reasons why this salt was given the preference.

Remarkable Opium-Eaters.—Jefferson, Wis., June 3, 1884. To the Editor of the *New York Medical Journal.*—Sir: Allow me to correct Dr. Livingston S. Hinkley's statement that the woman *habituée* he refers to, who took eighty-five grains of morphine daily, is the champion opium-eater. I have met with worse cases among my patients, and those I mention here I myself saw take the amount stated. One, a farmer, of southern Illinois, took in my presence the entire contents of a drachm vial of morphine, which dose he repeated once or more daily. Another, a railway employee, took from two and a half to three such vials, averaging one hundred and fifty grains of morphine daily. I am now treating a physician who took forty-five grains *hypodermically pro die* when he came to me—equal to about one hundred grains *per os*. Let me add my experience in such cases. The railway employee above mentioned was experimented upon to ascertain whether the drachm doses were completely absorbed, etc. I found that he could not tell the difference in doses of morphine, in solution, when administered by me, after passing ten or twelve grains in amount; indeed, twelve grains had the same effect on him that four times the amount had, showing that, beyond ten or twelve grains, the morphine taken has no effect, and probably passes off with the stools. This, of course, does not affect my *hypodermically* addicted colleague, who professes to have used from seventy to eighty grains daily subcutaneously at times. After the system has accustomed itself to a certain amount, which I maintain to be about ten grains *pro dosi*, almost any additional quantity may be given with impunity. Respectfully, etc., Dr. J. C. Hoffman.

The Illinois State Medical Society offers a prize of $100 for the best essay on the treatment of diphtheria, and another of the same amount for the best tabulated statement of ten cases of any disease coming under the care of any one practitioner.

EDITORIALS.

The American Medical Journal of the Future as Indicated by the History of American Medical Journals in the Past.—This address was delivered before the American Association of Medical Editors, at Washington, May 5, 1884, by Leartus Connor, A.M., M.D., president, and was published by request of the association. While it manifests in crudeness of diction, grammatical inaccuracy, and indulgence in the common language of the street, hastiness of preparation and construction, it yet presents the carefully-matured views of an experienced editor, and will be found well worthy of careful study. Some of the most interesting facts and experiences narrated are here offered to the readers of this Journal. The extracts are so presented as to appear somewhat disconnected in character and subject, but this result, is, of course, unavoidable in the offering of all extracts:

"The first medical journal published, according to Dr. Billings, was issued at Paris, in 1679. It was edited by Nicholas de Blegny, who seems to have been 'a good bit of a charlatan.' This journal was translated into both Latin and German. In the United States the first medical journal printed was the translation and selection from the *Journal de Médicine Militaire*, issued in Paris from 1782 to 1788. It was published in New York about 1790.

"The first American medical journal was *The Medical Repository*, a quarterly, edited by S. L. Mitchell, Edward Miller and E. H. Smith, New York, 1797-1824. Of the twenty-three volumes of this journal, Dr. Billings says, "they are well worthy of a place in the library of the physician of to-day." From that day to this New York has never lacked one or more medical journals.

"In the South the first medical journal was published at New Orleans, 1831, the *Journal de la Société Médicale de la Nouvelle Orleans*.

"In the earliest development of medical journals it appears that they bore a close relation to medical colleges.

"Medical societies have exerted a large influence in developing medical journals. All that is of real value to the reading medical public is now given to the profession months before the appearance of their volumes of transactions.

"In examining the causes which have led to the rapid and widespread multiplication of medical journals, we find them as numerous as the several classes of journals started.

"One class, and that a large one, owes its existence to the desire of some person or persons to start a medical college, or to advance its supposed interests.

"Another class of medical journals came from the desire of some person or persons to extend their reputation in certain lines of practice. This desire has given us many very excellent journals which we could ill afford to lose. They have gleaned the best the world has to give in knowledge or skill in certain lines of work, and presented it to the profession in a compact readable form. The special disadvantage of these publications is that they are unstable.

"Within the past few years, manufacturers of drugs and chemicals, etc., have become the owners of medical journals, with the view of bringing their products to the notice of the profession.

"Of course, the danger of this class of medical journals lies in the possibility that the powerful influence of the capitalist may end in bending the journals to their present interests, irrespective of the real facts and future profit.

"Another class of medical journals has grown up in connection with the publication of medical books. Firms having large numbers of medical books to sell have found it to their advantage to publish medical journals. In this manner they have better been able to place their books before the individual physician.

"A distinct profession of medical editors has not as yet been developed. Few even gain their living by acting as both editors and publishers. Some possibly live entirely by their editorial work, but their number is extremely small. A number get some pay in money for their work, but most get nothing. Not a few pay considerable sums for the chance of acting as editors. Most get simply the books and journals received in exchange. Hence, as a rule, medical editors get their living by the practice of medicine, their editorial duties being performed in the intervals of their regular daily work. Unquestionably, medical journals, as a whole, suffer from this condition of things, but the remedy for it is not yet apparent.

"The influence and power of medical journals depend largely upon their subscription lists. It is a difficult subject upon which to collect reliable data.

"The advertising value of a medical journal cannot be accurately estimated from even the exact number of copies mailed to paying subscribers. Much depends upon the persons who read the journal, and the confidence they repose in its statements. Shrewd advertisers recognize this fact, and upon it base their estimate of the relative value of advertisements in different medical journals. The roar of a lion will arouse more attention in a given community than the bleating of a lamb.

"The history of the past ninety years shows that the number of medical journals with large subscription lists is constantly increasing.

"The prices of medical journals have presented a curious spectacle, one worthy of careful study. Just now medical journalism is passing through an epidemic of cheap medical journals. I do not use the word 'cheap' simply in the money sense, but in every sense—cheap in price, from $1 to nothing, and even paying the purchaser for taking them; cheap in make-up, in paper, in press-work, cheap in editorial work, and cheap in contributed articles. These journals have had a large patronage, by appealing to that thrift which eagerly seeks to get things for less than their actual value, and by that self-complacency which makes its owner believe that through this slight expenditure of money he can keep fully posted as to the changes taking place in the medical world. Further, this style of medical journalism has led to the propagation of much nonsense respecting the calls of the 'busy practitioner' for brief articles. This call for brief articles has just this truth in it, which saves it from being an unmitigated falsehood, viz.: The shortest space in which thought and facts can be clearly and forcibly set forth, is just the space each article should occupy. Many excellent articles do occupy far more space. But, on the other hand, a large proportion of the so-called brief articles contain absolutely nothing worthy the attention of any studious medical man. Then, the busiest men in the profession are those who not only find time to read all the long articles in all the medical journals which have a bearing upon their studies and practice, but they also find time to write long articles for medical societies and medical journals, and even to write our very best medical books. The 'cant' of those who 'boom' the cheap medical literature is harmful to all concerned, unless it is discounted at its actual value. It is a settled principle that in trade men usually get only that for which they pay. They may be deceived and get less, but not more. Hence, it may be understood by every intelligent physician that when he subscribes for a fifty-cent journal he will get fifty cents' worth, just as when he subscribes for a five-dollar journal he will get five dollars' worth. We regard this epidemic of cheap medical literature as short-lived, and as a needful preliminary to the further development of the best sort of medical journalism. A cheap medical journal may be a good thing for the waste-basket, but it is not a product to which its owner will in the future point with pride, as it stands upon his library shelves. It also shows the folly of attempting to cover even a small field of medical science regularly for fifty cents a year!

"Such are some of the facts relating to the growth of American medical journals. In truth, these journals will compare favorably with the medical journals of any country. We have some good as the best, we have many poor, but it does not appear that we have the poorest. As a whole, our medical journals have advocated the right, and labored for what they regarded as professional advancement. If they are to be compared with their allies, colleges and medical societies, in making and moulding medical thought and progress, we think that our medical journals have no occasion to be downcast. But what of the future? Do the past ninety years of medical journalism give any hint as to the medical journalism of the future?

"In a general way, judging from the facts presented and suggested, we venture to suggest some general principles along which the medical journals must move.

A great many different persons having diverse aims will endeavor to originate and conduct medical journals. Of these the fittest will survive. A medical editor, like a poet, is born and not made. Only by the fullest liberty can he find his fitting work.

"The largest and most influential medical journals will develop in the great commercial centres. Those of less power in the lesser cities. All these will at last so be established that it will become a matter of such difficulty to start new journals at every new cross-road, that few will care to undertake the task.

"With increase of wealth and power, the great medical journals will be able to so sustain their editors that they can afford to devote all their time and energies to the conduct of their journals.

"The medical journals of the future will more and more be separated from medical colleges, medical societies, and all other corporate bodies that in any way cripple their perfect independence to work, and think, and speak for the great masses of the medical profession. This separation will be an indication that the best days of medical journalism are approaching, and that the conductors of these journals have recognized the elements of best success in medical journalism. Being thus perfectly independent of any particular body of men or special interests, medical journals will be able to speak for all interests in so far as they tend to the common good, and to condemn all that are opposed to the common good.

"The advertising columns of the medical journal of the future will have less and less influence over the utterances of the editorial pages. One of the sad things of medical journalism is the prostitution of the reading pages to the interests of the advertising columns. Secular journals have sinned in this respect, but medical journals cannot be called spotless.

"How shall we reach the best results? It strikes me that it will be best to let experience do most of the teaching. The past shows that it is impossible to persuade a man that he is unfit to run a medical journal, until he has convinced himself by trying. The more who try, the more will there be of the class who know themselves unfit for medical editorship. Colleges have largely learned already that a college 'organ' does not pay. Hence, they have largely dropped this method of advancing the interest of their schools. Others who start medical journals to build up special interests will ultimately find that these interests would have been better served by not starting a journal. Naturally they will drop it.

"Then, as the conviction grows in the profession that eminence and power in the profession must be earned by honest, hard work, so will there be less inducement for the starting of numerous medical periodicals.

"Beyond a doubt, years of prosperity will in the future as in the past be attended by a large crop of new medical journals, and years of depression by a small crop. But out of it all shall surely rise the medical journals of the future: journals, in all true senses, independent of all influences not tending to the uplifting of the medical profession to the highest position attainable for it: journals that in pure English shall represent the finest scholarship of the century, the truest manhood, the honesty and courage to speak the truth as occasion shall call for it, without favor or fear of any college, advertiser, or clique of any sort: journals that shall not only fully and fairly represent the past and present condition of medical science and art, but which shall inspire enthusiasm in all their readers to struggle for the best attainments possible in the future."

THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."—Many physicians, and medical journal editors among them, are writing personal letters in regard to the position which this JOURNAL has taken relative to the Association *Journal.* It is a pleasure to say that, so far, these letters sustain very warmly the course adopted. Allusion is made to the subject again chiefly to mention one view which has been urged by the writer of one of these letters; and in doing so, it is best that he should speak for himself; there can then be no mistakes. He writes as follows: "I thank you most heartily for your stand against the management of the *Journal of the American Medical Association.* That *Journal* is an imposition upon the American medical profession. I would not give $1 a year for it, and yet, as a Permanent Member of the American Medical Association, I am required to pay my $5 annual dues, or forfeit my membership, and I get this *slip* every week in return. It is nothing but a *slip*, and it is a shame to the medical Public. For the sake of the great majority of members of the Association who are denied the privilege of attending its meetings, viz.: the Permanent Members (who have no vote) and who pay a great share of the annual income, some one ought to put the *Journal* down. You would make us so glad, when you mention this matter again, to speak in behalf of the Permanent Members as well as for the profession at large."

One of the letters from the editorial corps is so pointed, and may be so useful, that a quotation from it is here given. The writer is one of the ablest and best editors in this country, and it is only justice to say that, in this office, no journal published is more faithfully read and admired than that which he so ably and successfully edits. The temptation to give more information is very great, but this cannot be done without his permission, and after this commendation, he is so modest, there is no hope of his consent ever being given. He writes as follows:

"Your editorial in the June number is timely and in perfect harmony with my views, and will, I believe, strike a responsive chord in the hearts of the editorial fraternity generally. I cannot understand how it is that the medical Press has maintained its Sphinx-like silence in this matter, for I have an opportunity of learning the prevailing sentiments thereon. I am convinced that had our brethren of the editorial fraternity freely uttered their views, the editor of the Association *Journal* could scarcely have been prevailed upon by his little coterie of admirers to retain his editorship. His claims on professional recognition and esteem are certainly not based on his editorial capabilities. He is a good man, but editing is not his forte, and his continuance in the management of the *Journal* is not in the line of the best interests of the publication. I have refrained from comment, because of his firm resolve to retire at the close of the present volume. The large vote in favor of Dr. Packard's report was, under the circumstances, a very emphatic expression of disapproval, and an ample endorsement of such journals as had the courage to express their convictions."

Medical College in Texas.—The medical Press has, for several months, been discussing the propriety and possibility of establishing a medical college in Texas, and as this is a medical subject, it is, of course, an appropriate theme for any medical journal.

It is very certain that there is not a single city in Texas which can furnish a respectable clinic, for clinics of any value can only be furnished by cities of large population. No city with less than 150,000 people can furnish a useful series of clinics. Texas is utterly unable to do so. It is true that the State can build an imposing edifice; that it can furnish, unaided, a faculty of accomplished and experienced physicians, who would, in time, become accomplished teachers, but the State cannot furnish, in any of its cities, a respectable clinic; it cannot equip a museum; it would labor under great disadvantages in even furnishing a sufficient supply of anatomical material. These are sufficient reasons for opposing so injudicious, if not fatal, a scheme.

Apart from these facts, there are now fully twice too many medical colleges. One half of them are not only worthless, but dangerous to the Public, and to the Profession. It would be a blessing, and not a loss, if more than one-half of them now in existence could be destroyed.

The demand now is for institutions with able and experienced teachers; fully equipped museums, abundant and varied clinics, abundant anatomical material; institutions of large resources, great reputation, situated in cities of large population. Texas is utterly unable to meet such a demand.

In addition to these reasons, which every one with practical experience will admit to be of essential importance, Texas medical students would not, for a decade or more, attend any medical college in their own State. They have, as a rule, too much sense to so waste their time, means and opportunities; and those who have not sufficient judgment for their own guidance would be guided by their preceptors and medical friends.

The time will come when Texas will have a medical college equal to any in this country, but that will be when its cities are larger, and when she can furnish advantages, or rather essentials, which at present are utterly beyond her reach. Meanwhile, the medical college movement in that State should meet with strong and persistent opposition.

This journal is absolutely independent, and manifestly impartial in this matter, and if its views are of any value, they are here placed plainly on record. It has a circulation of many hundreds in Texas, and in the interest of the Profession there, and of the Profession throughout this country, it could not do otherwise than place these facts and this earnest advice clearly before the Public.

It is true that some very excellent men are advocating the establishment of a medical college in Texas; that they are patriotic, earnest and sincere, but, unfortunately for them and the cause which they advocate, their sole argument is delusive and valueless. They believe that if all, or the greater part, of Texas medical students, who now go to other colleges, were to go to a Texas medical college, the revenue derived would be so large as to at once place such an institution upon a safe, successful and remunerative basis. The answer to this plea is very simple; it is, that Texas medical students have too much sense to go to an infant and suckling institution, struggling for life and nutrition, and without the essentials for successful medical teaching, when they can go to medical colleges of distinction, colleges fully equipped for practical and clinical teaching, and giving diplomas which are recognized and respected even in the oldest Capitals of Europe. The advocates of a Texas medical college are counting upon chickens that are not even as yet hatched, and that will not be hatched for many years yet to come. Meanwhile, the true course for the Profession there, is to have its distinguished ranks recruited by those who are drilled by great and gray officers in the world-known and world-recognized institutions of this country: to bring into their ranks graduates who are not simply to be tolerated, but who can add to the well-earned and just distinction of a veteran and distinguished Corps of practitioners.

THE LAST FASHION WITH MEDICAL JOURNALISTS.—It is displayed under the head of "Half an Hour with the Advertisers;" or "Our Advertisers," or something similar. The fashion is about as follows:

Bromidia is excellent. Prof. Snooks uses it; we know Prof. Snooks, and indorse all he says—the worthy manufacturers use only the best materials. We vouch for them.

Iodia is still better. Prof. Snookers says it is better, and whatever Prof. Snookers says is true in every respect. We know him.

Cocolac is a first-class remedy. Everybody now prescribes it. We know everybody, and they are all reliable and enjoy our entire confidence.

Malto-Pepsine is "par excellence." We know what "par excellence" is, and vouch for it, etc.

If these writers and so-called editors are not ashamed of themselves, their friends are at least ashamed of them. This selling of their editorial columns, directly and indirectly, is a shame on respectable journalism. It is remarkable that such men take their subscribers to be idiots, in supposing that they can be deceived by such editorial twaddle, venalism, and mendacity.

If editors of medical journals will take advertisements with an understanding or contract, specified or implied, that they are to give to such advertisements, or the representatives of such advertisements, editorial and laudatory notices, this should be done with the understanding that it is justly regarded as dishonest journalism; more than this, it should be the duty of the respectable portion of the editorial corps to drop such journals from the exchange list. They cannot, certainly, be regarded as being reputably conducted, and as to the propriety of exchanging with disreputable journals, there can be no difference of opinion.

It is not less disreputable for journalists to publish, in regard to advertisements, printed or copied extracts from letters and testimonials furnished by the advertiser. The journals engaged in such work, in the work of bartering editorial endorsements for money or its equivalent, and trading upon the credulity or confidence of their subscribers, are disreputably and dishonestly conducted. They should certainly be dropped from the exchange list; and dropped publicly. The subscribers to this JOURNAL are warned against all such notices. They are bought, directly or indirectly, and are totally unworthy of confidence.

This crying evil, this gross dishonesty, this offensive nuisance, this stain upon medical journalism, must be abated. It is the duty of the medical Press to accomplish this great and necessary reform; to drive out of its ranks those members of the Press who are unworthy to hold position in it.

The Association of American Medical Editors might undertake this work and other practical and practicable work, but for sixteen years it has done nothing but meet and meet, and render itself more and more worthless and insignificant.

It is impotent and useless; but the editorial Corps can be relied upon, and is worthy of such work as has been herein indicated: the vindication of its claim to be worthy of the trust and confidence of the Profession.

It would be impossible to close this notice without considering the claims of the advertisers in medical journals, as well as the claims of the readers of them.

There are some advertisers who have justly the entire confidence of the medical Press, as well as the confidence and support of the Profession. But advertisers are but men, and, like men, some are honest and some dishonest. Shall the editor enrol them into classes: the good, the bad, the indifferent, and the base? Can he do so if he would? He may indorse, if he pleases, their commercial paper, and be pecuniarily injured or ruined if in his judgment he errs. In this he only can suffer. But shall he do anything that may wreck or injure others? Shall he endorse not only the advertisers, but their methods, their employees, the materials used, and then warrant these all against change, or depreciation, or injury? If he could do this for some advertisers, can he do it for all? Have they not all equal and similar relations to him? Shall he be the judge? Could he be, even in regard to all known to him? But how many are unknown? How many are absolute strangers? How many just known to the Public, and known by name only? Shall the journalist aid some and refuse aid to the others, while all bear the same relations to him? He carries them all, it is true, before the Public. But that is all that he is asked to do, or paid to do, or contracts to do. So does a railroad company. Shall these vouch for all that they carry? Both the press and the roads have the right to refuse to carry what is disreputable, or dangerous, or disgraceful to carry, and both have the right to obtain all the information possible in guiding them as to what persons and what material it is reputable or dangerous to bear; but, this being decided, the duty ends, and no one should seek or obtain a voucher as to the honesty or respectability of the persons or material carried. Journals, after all, are in this relation but commercial carriers of certain printed circulars or advertisements; and they can no more justly and correctly vouch for the reliability of such material than can the United States Postal Department vouch for all that it carries. Like that Department, it has the right to reject what is dangerous or improper to carry; but like that Department also, it cannot vouch for all that it does carry.

Finally, journalists must be fair; and when all pay for advertising privileges, journalists cannot justly favor some and refuse to favor others, and they cannot favor all without making such wholesale and universal praise as worthless as it would be foolish and improper; though some journalists do ludicrously go through the list of advertisers, and say the same thing, with some transposition of words, in behalf of each and all, as cunningly, and as equally, and as transparently as a third-class ward politician gives sham cigars to those from whom he seeks support and his salary. No! editorial advertising of advertisers, with or without pecuniary compensation, cannot justly be given to all, or properly to a few. This last fashion of journalists then should be first understood, and then universally repudiated and condemned.

Prohibiting Opium Imports.—The bill now before Congress prohibiting the importation of opium, except in the form of aqueous extracts, is being strongly supported by philanthropists interested in the suppression of the opium habit. There can be no doubt that "opium using" in all its forms is spreading in the United States. One form has become better known than the others, owing to the fact that, unlike other forms, it is a social vice. Gaillard's Medical Journal for October, 1881, gave an account of all the methods employed by the opium smoker, and the results of the practice. Since then the habit has become a recognized vice in all large cities, and a favorite practice with males and females, especially of the hysterical class.

It appears that opium smoking has a tendency to displace alcohol using and the several modes of "opium using." It is less injurious to the nervous system, less destructive to the liver and kidneys, and has not the tendency to produce combativeness and ill-nature which alcohol and some modes of "opium using" manifest. All forms of the opium vice are destructive to morality.

It is very probable that opium can be, and is, smoked in moderation, and is not then more injurious than tobacco, though it is more seductive than tobacco, is more easily abused, and interferes more with intellectual and physical exertion.

Taken as a whole, the effects of continued opium smoking are certainly disastrous, but the secret morphine or laudanum habit is more so.

There is much exaggeration at present as to the extent of the former habit. A fashion has spread from England to the United States of visiting the opium "joints." As a result, the opium "joints" have had visitors from the fashionable localities, and newspaper reporters, ignorant of this custom, have spread broadcast fearful tales of the demoralization produced by opium smoking. With all due allowance for these exaggerations, however, it must be admitted that the vice is becoming altogether too common. The aim of the bill referred to is therefore praiseworthy; but as to its passage there appear to be important objections. It would seem, at first sight, that the prohibition of opium would seriously interfere with the treatment of diseases, since there is no drug which has such varied uses in the relief of suffering. This objection cannot be regarded as tenable, for in no respect is gum opium indispensable in medical practice, since aqueous extracts of the drug will fulfill all the indications demanded. Such prohibition would undoubtedly, however, increase the price of opium preparations, and deal a serious blow to the dependent branches of manufacturing pharmacy in America, while restricting the opportunities of the retail laboratory, and making foreign manufacturers supreme as regards all opium preparations. The enhanced price of these preparations would, moreover, tend to the use of less efficacious remedies, and thus restrict the efficacy of medical treatment.

The most important objection to the bill is that prohibition would not curtail vice. Substitutes for opium smoking are readily accessible, and fully as pernicious in their effects. The prohibition would not lessen the secret use of laudanum or morphine, and it would not, except for a short time, interfere with opium smoking, since, for the gum opium, there will be substituted tobacco soaked in laudanum, as is now done to the satisfaction of a few economical opium smokers. In this connection, it may be added that England is responsible for the continued use of opium in China. When the Chinese Government prohibited opium, England enforced it at the point of the bayonet, so as to allow the sale of Indian opium. It is not likely that the English would attempt the same measures in the case of the United States, but the fact is of interest historically.

It does not seem probable that Congressional legislation would curtail any of the opium vices, while it would increase, in this country, the price of opium and its products, and give to Europe a monopoly in the manufacture of such opium products as are demanded so universally in America. It is a useless and mischievous bill.

THE CONSERVATIVE VIEW OF CREMATION.—The *New York Medical Record* presents this subject humorously and well. It says: "We do not mean to assert, by any means, that cremation is a humbug, or that it is not a mortuary rite entitled to respect. Cremation is a legitimate and decent method of disposing of the deceased. Those persons who wish that, after death, their bodies should be put upon a crematory grid-iron and slipped into a fiery furnace ought to have opportunities for the gratification of such a harmless excentricity, the proper medico-legal cautions being taken. We have before expressed the opinion that, the novelty of cremation having passed away, it has ceased to encounter very much opposition or to receive very great encouragement. The English Parliament has, to be sure, rejected the cremation bill, but an English judge has affirmed its legality, and the Paris Municipal Council has voted to cremate the anatomical *débris* of the city's dissecting-rooms. But though cremation has been revived now for many years, the number of bodies burned is still counted only in hundreds.

The fact is that cremation is not a necessity, as is claimed, except possibly in certain localities. The alleged dangers of inhumation do not exist, if the solid coffins are not used, and the bodies are deposited in proper soils.

Much has been said and written concerning the purifying loveliness of fire, and the mouldy putrefaction of the earth. Such arguments relate entirely to the individual feelings, and are not practically of much value. Most people really prefer to take the chances (*post mortem*) with the worms, to produce ptomaines, adipocere, and other interesting chemical bodies, rather than be suddenly blown up through a tall chimney in the form of CO_2, the inorganic remainder being returned home by express. Yes, flame purifies; and, therefore, man is in the habit of casting all his rubbish into it. But most persons object to classifying their beloved dead as rubbish, and to be disposed of by bonfire, as is the custom in the country.

Let those have cremation who want it, let it be introduced into cities which absolutely need it, if such exist. But there is no need that sanitary Jeremiahs should go about informing the people that inhumation is disgusting, and that cremation is a hygienic and æsthetic necessity! This is humbug."

AMERICAN PUBLIC HEALTH ASSOCIATION.—At a meeting of the Executive

Committee, held at the Museum of Hygiene in the City of Washington, May 7, it was decided to hold the twelfth annual session of this association on Tuesday, Wednesday, Thursday and Friday, October 14-17, 1884, at St. Louis, Missouri, and to present the following topics for consideration: 1. Hygiene of the habitations of the poor. 2. Hygiene of occupations. 3. School Hygiene. 4. Adulteration of food. 5. Water pollution. 6. Disposal of sewage by irrigation or chemical action. 7. The observable effect upon the public health of official sanitary supervision. 8. The work of municipal and State boards of health.

Persons intending to present papers on any of these subjects are requested to notify the secretary at once, and to furnish him with a condensed abstract of the same not later than September 1st. Members desiring to participate in the discussion of these papers are also requested to inform the secretary,

It is requested that the complete papers shall be in the hands of the secretary at least three days prior to the meeting, as all papers must be examined by a committee before being read. They may be sent by mail or express to Dr. Irving Watson, secretary, at his office, prior to the 1st of October, after which date to his address at St. Louis, Mo., care of Dr. Jos. Speigelhalter, who will give to any one all information desired. This notice is given early, with the hope that it will enable many to participate in this valuable movement. Attention will again be called to it.

THE CLIMATE OF AUSTRALIA.—A writer in *Macmillan's Magazine* gives the following: "I think the climate of Melbourne must be one of the most trying in the world. Mornings of bright hot sunshine, with scorching wind, change within a very few hours to afternoons of really biting cold, when the strongest are thankful for ulsters or sealskin jackets. Upon the hottest days it is a common thing to see people carrying heavy coats or rugs, in anticipation of the sudden change that may occur. The whole of the southern coast of Australia and a considerable part of the country inland is, so far as I was able to learn, subject to like alterations of temperature. Very little is known in England, even among medical men, of the climate of the Australian colonies, or rather, I should say, of their many different climates. Persons coming out for their health seem very generally under the impression that they have but to reach the shores of Australia to find a climate ready made to suit their particular ailments. This is a great mistake as regards consumptive patients; and I will go so far as to say that, in the majority of cases, they will find themselves, on first landing, in a climate less suitable to them than that of the south coast of England. The climate of the Australian coast has been proved for the most part to be unfavorable." So many persons are sent from the United States every year to Australia, that it is hoped these few facts may be of use to the profession and save their patients from suffering and danger.

THE DWIGHT VERDICT JUSTIFIED.—The Society of Medical Jurisprudence and State Medicine held their last regular meeting at the Academy of Medicine. A paper by Prof. J. G. Kiernan, of Chicago, entitled "Some Suggestions Concerning the Dwight Insurance Case," was read by Mr. H. W. Sackett. "The decision in the Dwight case," he wrote, "was fully warranted, even allowing that the deceased was a suicide. Supposing Col. Dwight was insane, and with an insane idea of smartness had committed suicide, with a vague notion of making money for his friends. Would that act vitiate his policy? Under the laws of Iowa it would not, and legally the policy could not be declared void." The question was simply one of a contract with an insane person, and not of fraud. Dr. E. C. Spitzka said that the medical officers of life insurance companies were rarely appointed with regard to fitness, but simply with a consideration of their social position. If insurance companies were blind enough to use poor tools he was perfectly willing that they should suffer by their poor selection. With a few trustworthy exceptions, the examination by insurance physicians was of a most slipshod description. The affections which ranked highest on the death tables were the most insidious. Dr. Harwood alluded to the extravagant projects which people suffering from dementia were supposed to entertain, and wondered whether Jay Gould, Vanderbilt and the firm of Grant & Ward were thus afflicted.

American Medical Association.—The following note has been received, and it is published, as requested, with pleasure:

Philadelphia, June, 1884.

Dear Sir: At the meeting of the American Medical Association, held at Washington, in May last, an amendment to Regulation II. was adopted, which provides that:

"Membership in the association shall be obtainable by any member of a State or county medical society recognized by the association, upon application endorsed by the president and secretary of said society; and shall be retained so long as he shall remain in good standing in his local society, and shall pay his annual dues to the association."

You will perceive that, as far as such opportunities are embraced, the strength of the association will be increased and consolidated, so as to unite the profession, and give it a force and influence not otherwise attainable. Without undertaking, however, to point out the advantages of this action on the part of the association, or to advocate the plan of which it is a main feature, it may simply be said that, as the new departure has been taken, it is for the association and its constituent bodies to carry it out to the fullest extent, and to give the movement their hearty co-operation.

Toward this end, the first step is to make the action of the association as widely known as possible; and you are, therefore, requested to bring the matter to the notice of your society and its individual members, either by circular, or in such other way as may seem to you most effective for the purpose.

Applications for membership, in the manner specified above, accompanied with five dollars for annual dues, should be sent directly to the treasurer, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa.; on receipt of which the weekly journal of the association will be forwarded for one year to such member.

Respectfully yours,
William B. Atkinson, M.D.,
Permanent Secretary.

Abuse of Medical Journalism.—One of the exchanges says that the publication of prescriptions for certain diseases or for certain described cases appears to border on empiricism in the bad sense of the word. It is a common custom with homœopathic and eclectic journals, but does not belong to regular and rational practice. An enterprising contemporary, published in St. Louis, calls on physicians to furnish this kind of material. Hear how earnestly the editor appeals: "Doctors! give us your treatment for ordinary diseases and your favorite prescriptions for publication. Do this for the profession, and others of the profession will do the same for you," etc.

The misfortune is that it is not only "the enterprising contemporary at St. Louis" that makes this request; many journals do the same. The editors of these publications seem to think that a disease has only one stage, and that that stage in all persons, seasons and ages is exactly the same; hence, that there is a prescription for it. They should buy some gardener's calendar, or that of Ayre, or Brandreth or Jayne. In these will be found exactly what is "good" for each disease, and by republishing these recipes, their journals will be raised to the standard which is so noisily, eagerly and foolishly sought. "Doctors! what is good for fits?"

THE LATEST FOLLY.—MEDICAL INSTRUCTION IN JAPAN.—A meeting under the auspices of a committee of gentlemen consisting of Bishop Stevens, Dr. D. Hayes Agnew, William Pepper and others, was held in Philadelphia, June 11th, for the purpose of inaugurating a movement looking to the establishment in Japan of a medical college, hospital and training school for nurses. The plan is largely the outcome of the efforts of Dr. John C. Berry, formerly of Maine but for the past 12 years a medical missionary in Japan. Dr. Berry explained the project at length. He estimated that to establish a permanent endowment of one professorship $45,000 would be required! Resolutions were adopted indorsing the project, and in the furtherance of the plan as contemplated a committee was appointed to confer with similar committees in other cities of this country!

PHOTOGRAPHIC PROGRESS.—Photography is one of the miracles of modern times. The art has taken great strides since the time of Daguerre. Lately pictures have been taken with great rapidity. Dr. Koch says that he has photographed with a photomicrographic camera that most minute filament, the flagellum of the bacteria. One might be satisfied with photographing the bacteria as a whole, since it is beyond the reach of naked vision; but to take a picture of an insignificant portion of it is like getting among fairy-tales. Mr. Rockwood, also, has succeeded in getting satisfactory pictures of the vibrating-point in the diaphragm of a telephonic instrument while a person was speaking at it, and by means of a spark from Leyden-jars. The work must have been done in the one twenty-four thousandth part of a second.

DANGEROUS MILK.—The discovery at Blissville, N. Y., that the milk of dangerously sick cows was regularly sold was of a kind to startle the Public and stimulate the Health Officers. The State Board took prompt action for the abatement of the particular nuisance thus disclosed. The City Board has now undertaken an inspection of all the cow stables "within the limits of the city." This is a good beginning, but the investigation should be extended to all the sources of the local milk supply. Next to clean streets, the purity of the milk sold is perhaps the most effectual preventive of the frightful mortality among infants which the hot weather usually brings with it. Honest milk-dealers would be glad of an official assurance of the quality of their milk and the condition of their cattle. If any suburban dealers refuse to submit their stables to inspection the refusal will be in itself suspicious, and if the City Board of Health cannot of its own authority inspect suburban stables, it can no doubt derive authority from the State Board.

MEDICAL CENSORS.—The medical press of England occasionally comes out with some stringent criticisms upon the practice of advertising medical books in the daily papers. The general sentiment of the profession there is emphatically opposed to these public announcements of technical medical works with their authors' names and titles. A similar feeling prevails among the physicians in this country and has very generally been respected. Of late several medical works have been advertised in the city papers and on the sidewalks with other publications of the firms. Authors who allow this enlarge the circle of their readers, but they also weaken their own standing among their medical brethren. A good medical work cannot be made intelligible to general readers, and the very fact that attempts are made to secure such an audience stamps the work at once as of questionable authority and value.—*N. Y. Med. Record.*

THAT was a scurvy trick which, according to the *N. Y. Medical Journal*, was recently played on a medical expert who was a witness in a case in which were involved some points in neurology. In the cross-examination he was asked if he recognized a particular book as authority in the matter, and the question was repeated in regard to several other books. He answered that he was familiar with them all, and that they were authorities on the points involved. On his leaving the stand he was succeeded by the lawyer's clerk, who testified, under oath, that the titles of the books as mentioned, and with which the expert had claimed familiarity, were wholly fictitious, having been concocted in the law office to which he was attached. It will stand our experts in good stead to be wary of this new pitfall.—*Age.*

SHAM REVIEWS.—Many of the popular magazines, non-medical in character, have sensational reviews of their coming number prepared. These reviews are sent to the newspapers, literary magazines, and some medical journals, and are published by such periodicals in their review department. This is about as perfect a fraud as an editor can perpetrate upon his readers. It is observed that several of the medical journals are guilty of this disreputable conduct, to secure an exchange for their journals. The proprietors of these "card reviews" must have about as high a respect for such editors as they enjoy among those who are cognizant of such facts.

LONG ENOUGH.—An indignant subscriber wrote to a Western editor: "I don't want your paper any longer." The editor, with that guilelessness which characterizes all members of the guild, replied: "That's all right. I won't make it any longer, because in that case I should have to buy a new press. The present length suits me and I am glad it suits you." Indignant subscribers should guard against ambiguity in such announcements, and at the same time comply with the provisions of the law in such matters, by enclosing the amount of arrearages.

THIRTEEN AT TABLE.—The *Sanitary Record* says, the statistical probability of the superstition that if thirteen sit down to table, one of them will die in the course of the following twelve months, is given in a French paper, from which it appears that the chances are, that if the average age of the company is 10 years, there ought to be 134 present; 15, 131; 20, 129; 25, 124; 30, 119; 35, 112; 40, 103; 45, 90; 50, 73; 55, 54; 60, 35; 65, 25; 70, 17; and only if the average age is 72½, 13 persons present make the realization of the theory scientifically likely.

PASTEUR'S HYDROPHOBIA VACCINE.—M. Pasteur's last performance is in keeping with some others. Several weeks ago he furnished to a sensational paper the announcement that he had discovered a vaccine against hydrophobia. The exaggerated language in which his discovery was described might have been largely due to the expansive imagination of the reporter. Nevertheless, such a possibility should have been foreseen and guarded against. Though promising great things to the newspaper Public, M. Pasteur, it seems, dares not yet actually put his "vaccine" to a practical test.

CHOLERA.—It is announced (June 21) that cholera has appeared at Toulon, France. The first death occurred on June 4th, and from that time till the 22d seventeen deaths had taken place. Fourteen new cases and eighteen deaths were reported on the 23d. It is supposed that the disease was brought to France by troops returning from Egypt. All the European governments have taken steps to prevent the introduction of cholera into other ports. Cholera is also reported to have broken out at Marseilles, Pekin and Tokio.

THE *Medical Age* says that it did not appropriate that joke in regard to the biceps of tbe bear and the man, it only "abstracted" it! For aneditor that, a few weeks since, did not know the difference between an "abstract" and an "extract," this appreciation of words is quite encouraging. He says that, at best, it is a very poor joke; and yet, in his extremity, he seized upon it and abstracted it with avidity.

THE URINE IN DISEASE.—The editor of the *Medical World*, of Philadelphia, Pa., will please accept thanks for "The Chart of the Urine in Disease" sent to this JOURNAL. It is a useful and convenient arrangement for a physician's office. The *World* for one year and a copy of this chart can be had for one dollar. Address "Dr. C. F. Taylor, Editor of the *Medical World*, Philadelphia, Pa."

HUXLEY AND CIRCUMCISION.—A clergyman who sought to "corner" Huxley, asked him to explain, in the light of the theory of evolution, how it is that the male children of the Jews continue to be born with foreskins intact. The witty evolutionist replied: "There's a Divinity that shapes our ends, rough hew them as we may."

GAILLARD'S MEDICAL JOURNAL has known all along that "*per os*" is the correct way of putting it. Now, let us hope that it will no longer allow "*per orem*" to be used as a substitute in its pages.—*The Age.*

NOTE.—In thirty-seven volumes of this JOURNAL that error does not occur once.

NOTICE.—A friend, in Texas, sent to this office, to be advertised and sold for him, four old volumes of much value. These were mislaid in the Superintendent's office, but have been found. Will the owner be kind enough to send his name and address to the editor of this JOURNAL, who will then with great pleasure comply with his wishes.

RECTAL ETHERIZATION.—Most of the medical journals contain editorials on this subject, and write of it as something new and valuable. It was advocated by Pirogoff nearly forty years ago; about the year 1848. Those journals which have misled their readers in this matter, though undesignedly, should give them this piece of information as a supplement.

MR. SAMPSON GAMGEE gives the following advice to surgical operators and dressers: "Cultivate light touching as an art; probe without thrusting; cut without bruising; separate without tearing; manipulate without mauling."

THE *Somerville* (Mass.) *Journal* is of the opinion that it is not in good taste for a physician, when writing to a patient, to sign himself, "Yours till death."

IMPORTANT NOTICES.

I.—Any change of post-office address should be at once reported. The Postal Laws hold any one responsible, pecuniarily, for journals sent to an old post-office address, if the change of address be not reported. This is only just and equitable, and prevents serious and unavoidable loss.

II.—Subscriptions are due on receipt of the first number of each subscriber's subscription year. All subscriptions are continued, unless orders to the contrary are received.

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GAILLARD'S MEDICAL JOURNAL

AND

(*THE AMERICAN MEDICAL WEEKLY.*)

(CONSOLIDATED.)

Scientia et Veritas Sine Timore.

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ORIGINAL ARTICLES.

ARTICLE I.—A PORCELAIN STEM PESSARY. By EPHRAIM CUTTER, M.D., New York.

The object of the stem pessary of the writer is to reduce uterine flexions and displacements by straightening out the former as on a splint, and by holding the uterus in situ naturali. Elsewhere* the subject is treated at some length, so that only a brief reference to the principles that govern the application of the instrument is required here. With a case in hand, one should see that the uterus is normal in size, that hyperæsthesias of vagina and uterus are removed, that no complication of tumor, abscess or conception exists, that the patient is under control, can and will keep quiet if necessary. Better for the first trial to be in bed undressed. If on application there is too much irritation set up, as shown by chills, fever, tenderness on pressure of the abdomen and on the pessary, heat of vagina, etc., the patient's physician, or she herself should remove the instrument, apply fomentation to the abdomen, keep at rest in bed and use such remedies as may seem best to the attending physician. Thirty grains of iodoform in gelatine capsules may be used twice a week in the vagina, and after a time the attempt may be renewed to apply the pessary.

If after a few trials the instrument is not tolerated, the case must be relegated to the category of those that are unable to wear a stem pessary, *for there are such,* and some, perhaps nearly all, practitioners, include all women in this class, for it has been said publicly "that no stem pessary can be worn." This positive dictum was not because of the imperfections of the present stem as to mechanical principles, for it keeps the uterus in situ naturali without absolute immobility, does not get out of order readily, can be worn, despite the dictum above, for months, and after once being applied and fitted does not need much attention from the physician. The great objection lies in the fact of the stem, being intra-uterine, producing discharges, irritation or inflammation, with its sequelæ. This being the case, attention has been given to procuring for the stem a material which is least irritating, and which at the same time is mechanically workable.

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* "Contribution to the Treatment of Flexions and Versions of the Unimpregnated Uterus." Boston: J. Campbell & Son. 1876.

At the time of the invention of the stem in question, hard rubber was used, as it was conceded to be the best material for the purpose. Although hard rubber is a composite substance of an organic nature (rubber) and a mineral element (sulphur), still not much objection has been raised to its employment as an appliance in and about the human body cavities. Indeed, in the experience of the writer, as an intra-uterine stem it has done well in many cases, but in others it has produced discharges sometimes of a fetid and bloody character.

In looking about for a substitute, the writer directed his attention to dentistry, which probably makes more permanent artificial applications to the mucous membranes of the human body than any other art, if we except that of the tobacconist.

The most used material in dentistry is vulcanized rubber plate colored red with mercuric sulphuret. I was always prejudiced against this material for intra-uterine use, on account of the mercury. I never could be divested of the feeling that the combination of mineral teeth-rubber, sulphur and mercury would not act otherwise than as a galvanic battery in the mouth or uterus, and thus do harm. What I have seen confirms this view, and there is no doubt that many cases of chronic disease are aggravated if not caused by the use of mercurial rubber plates. Hence, I never used it for the stem pessary. I supposed that the common black hard rubber plates were innocuous because free from mercury, and hence would answer for the stem until I saw a case where a young unmarried women had worn a hard rubber plate on the upper jaw for some time, with eyes sore, ears deaf, face spotted with sores, with gingival margins of upper alveolar process, covered longitudinally with a pediculate proliferation soft and boggy. I was convinced that hard rubber was noxious for internal uses sometimes; for when a mineral porcelain plate (to be described) was substituted, in one month's time the deafness left, the sores on eyes and face healed, and the proliferation had nearly disappeared. A good aurist and oculist had failed to cure this case by local treatment. Further investigation of the plate which cured showed it to be made of silica, feldspar and quartz in its entirety of substance, teeth and all.

The following points seem worthy of note:

1. The mineral plates agree with the oral tissues so that they continuously fit tightly and firmly. Rubber plates are apt to get loose because of absorption of the substance of the jaw.

2. The mucous membrane and alveolar processes grow up into close contact with the mineral plate.

3. New bone forms under the plate in the alveolar process.

4. They are not acted on by the botanical and chemical fluids found in the mouth and pharynx.

5. The plates are never broken inside the mouth, though when ejected on the floor, by coughing or sneezing, or when subject to blows or shocks outside

the mouth they break. Because a watch is damaged by falling, it is not regarded as a detriment to its use as a timekeeper.

6. Being made of mineral earths there is no galvanic action like that which sometimes occurs with even platinum plates, as shown by the following case:

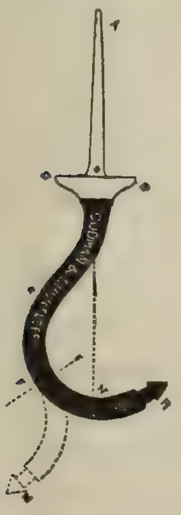
On April 2, 1884, I saw Mrs. C., 228 East 12th street, N. Y., an elderly lady, who said she had worn false teeth for many years. A platinum plate gilded with gold was used for the upper jaw, in combination with a red rubber set for the under jaw. These were worn for four years without trouble, when she had a bad sore mouth and throat, which she thought proceeded from her stomach, and for which she had medical advice to no avail. But when, four years ago, both upper and lower sets were replaced by the mineral plates, immediately her mouth and throat got well, and have remained so ever since. It would seem here that the combination of platinum upper plate and vulcanized rubber for lower jaw formed a galvanic battery, excited by the mouth juices, which caused the local oral inflammation as proved by the history of the case.

The cure in this case was so closely connected with the change of plates, that the connection between cause and effect was clearly seen; besides, so many other cases present the same connection that I think it would be mulish to deny it, and I feel fully justified in presenting these statements.

The dentist who made these plates is Dr. W. E. Dunn, 39th street and Lexington avenue, to whom I acknowledge my indebtedness, for without his aid I could not have had porcelain pessaries.

So far as my investigations have gone into the workings of the mineral plates, the evidence points all in one way: to their superiority to any other material for false teeth.

Red rubber plates may not only cause diseases of the mouth, but of other parts of the system. In chronic cases of disease, the oral cavity should be examined to see if false teeth are not undermining the health of the patient, in addition to other lesions.



With this introduction, the special application of mineral, stone or porcelain to the material of the stem pessary aforesaid is in order.

The manufacture has been found difficult, owing to the plastic condition to which the material is reduced by the high heat of the refractory furnace, about 4,500 degrees. Sometimes the stems bend out of shape and curl to look like a hook, so the longitudinal accuracy of the lathe-finish of the hard rubber must not be expected. Still it is susceptible of high lustrous polish, like the mineral teeth and plates, which are smooth, shiny and pearly as the natural specimens.

Another mechanical difficulty is the immovable disc. This has not been overcome as yet. In cases when the flexion, straightened out by the uterine sound, immediately returns on the withdrawal of the sound, it will be necessary to use the ordinary hard rubber stem with movable disc* until, so to speak, the "spring" has been taken out of the uterus, and it will remain in place long enough to get in the porcelain stem which, when introduced, is to be worn continuously until the lesion of place is cured. It is worn through menstruation. The menstrual fluids flow readily by the smooth surface of the stem. There is no need of a groove in the stem as some have suggested. The instrument should not hurt the patient, nor press on any part to make it sore. If so, the iodoform can be used inside the vagina by the side of the stem, and when this is ineffectual, the case should be remeasured, and either the pessary changed in its curves by heating over a flame, or a new one should be substituted that corresponds better to the vagina and perinæum.

Dr. Sims once said, when he was told a story: "Give me details. The failure of communicating ideas is from the absence of details."

The following are some details:

It happens sometimes when an instrument is fitted properly that after a time the hook presses on the perinæum. This means that the uterus is rising in the pelvis to its proper place.

In many cases of version and flexion there is a sagging; or, to use a vulgarism, a "squashing" down of the uterus and vagina in the pelvis. Of course, when the uterus is first reposited and straightened by the sound, it is not elevated in the pelvis, since the contraction of the vagina and the uterine supports would press too heavily on the disc and cause irritation and other trouble; hence, in my opinion and practice, the organ should be held in this position on the smooth upper surface of the disc until it rises of itself by regaining the former elasticity and strength of the uterine supports, so that the necessity of substituting a longer pessary is no objection; on the contrary, it is a recommendation, since it shows that one object of artificial uterine support has been gained—to wit, the restoration of the power of the uterine supports to elevate the organ to its situs naturalis.

I tried to combine one stem with bodies of different lengths, so that all the physician would have to do would be to simply change the body, and not the whole instrument, in the cases of uterine rising. This appeared feasible, but practically it failed, from mechanical difficulties encountered in the workshop.

How do we know the instrument is doing well? Answer—By the relief, more or less complete, to the neurotic symptoms that have tormented the patient. Walking, riding, exercising, household and even professional duties should be performed with more ease than before.

A late writer has alluded to the weight of the uterus being only a few drachms, and that the effects of lifting such a slight weight cannot avail much; that when it presses on the bladder this weight is too small to amount to anything. Now, the fact of the light weight remaining, it is also a fact that frequent micturition, hyperæsthesia in hands, head, stomach and elsewhere, have been relieved simply by replacing the uterus to its normal site with the sound or stem, so often, so consecutively and so positively, that the relation between cause and effect was too pronounced to be overlooked. I have seen in cases thus maintaining the uterus in position a restoration to the active duties of life, and development of the bust, form and carriage, from being flattened, bent forward and drooping, to full bust, deep chest and upright trunk. It has seemed as if a load that had been drawing the woman down towards the earth had been lifted off. Indeed, the clear, bright flashing eye, the easy, quick and graceful movements, the spirited countenance, the poise, the stamina, have shown a wonderful change from the drooping eyes and form, the slow, moping and uncertain carriage, from the premature sitting down in quiet with folded hands like a grandmother, from the immobile face, and from the giving out from exhaustion by a little exercise, labor or employment. Women have been called lazy, hypochondriac, nervous, with an idea significantly conveyed, if not expressed in so many words, that this condition was something that they could help. Had the same women broken their thighs, not a word would have been said when they asked for professional aid, but when they suffer from uterine troubles, which, when unrecognized and untreated, are worse in their effects on the system than a broken thigh (for they cause neurosis more acute than the pain of fractures), is it reasonable to chide them for asking for assistance then?

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* In the work referred to above, the advantages of the movable disc are described. It is enough here to say that the disc is held by a bayonet catch, and can be let down on the body of the stem so as to allow the stem to enter the uterus closely by the side of the sound previously introduced. Lately I had a case where I could not introduce the porcelain stem, while the movable disc stem was applied with facility.

LAZY FOLKS.

I sometimes wish folks were more lazy. How many physicians see their work upset by injudicious exercise of their patients, who have an irresistible impulse to do some work that they think needs to be done, and that they can do as well as not. I think it would be much better for all concerned if patients would regard themselves as doing a great work in waiting to get well, even if an ignorant public sentiment calls them "lazy."

For example—A young woman with anteversion and anteflexion felt so much relieved by the use of the porcelain stem, that she was exuberant in her expressions of joy and happiness. She fell into the error of doing some work too soon, for she thought she "could now be of some use in the world." The result was a tenderness on pressure of the stem, a slight enlargement of the uterus, headache, backache, and general malaise, which was the more wretched as the previous relief had been joyous. An enforced rest was taken, and she was put back weeks. Had she been content to have kept quiet, within the bounds assigned her, all this would have been avoided, and her *esprit du corps* would not have waned.

The extent to which any sick person can go, is difficult to decide, but it is better to err on the side of laziness, as it is safer than the side of work. The late Dr. Beard believed in a "work" cure as well as a "rest" cure, and he was right; but when one has hyperæsthesia from a dislocated and twisted uterus, the strain is from overtension not undertension, and it takes time to restore the loss. Thus, when the lesion of place is cured, one would expect a cure of the neuroses, but it is not so always. The cause is removed but the results remain to a great extent, as when a huge boulder is rolled down a mountain side, the force that caused the roll ceased the instant that the stone started, but the weight carried it down the incline, crushing trees, rocks and all obstacles in its way, till the foot of the mountain is reached, but it takes time for the marks of the devastation to cease, and the traveler descries it at a long distance, and for a long time; but if no more boulders follow the track it will become obliterated. So, the uterine lesions ceasing, if the patient is careful and properly nourished, the disturbed nerve centres will regain their normal state and health.

The writer suffered from consumption of the bowels in childhood, and he also suffered from an oversensitiveness of the bowels for forty years. The smell of a hot confined room, crowded with people, would, up to that time, cause a diarrhœa. But now, at 52, this has passed away. Patients who have recovered from dysentery of a severe type have told me they have suffered from weakness in the bowels for many years. These serve for examples.

The best diet for a case which is not absolutely rigid is one mouthful of vegetable to two of animal food. Baths of ammonia and warm water: sponge all over at night. Drink hot water, one pint one hour before each meal and on retiring.

COMPARATIVE VALUE OF THE PORCELAIN AND HARD RUBBER STEM.

Have the expectations been realized? Not fully, so far. As a general rule there has been a cessation in the amount of vaginal discharge; in some cases there has seemed to be no difference. Some patients have thought that the feeling of slight heat was removed by the change of pessaries. One said that the hard rubber stem relieved the head but not her back, but that the porcelain stem caused both back and head ache to cease.

One patient, who could not wear the hard rubber stem, now wears the porcelain stem without any trouble whatever, and calls it her "little china doll." She is engaged in the active practice of teaching, which I am quite sure she could not do were it not for the stem pessary. In this case there was a complication of consumption. The combination is a formidable one, but this makes the cure more worthy of note. She complained not of pain, but of prostration more or less complete after exercising, which ought not to have tired but exhilarated her were she well. This case also presented vaginismus and uterismus, relieved by iodoform gelatine vaginal capsules, 30 grains twice a week. In a fortnight the anteversion was relieved by a sound, and a stem was introduced.

Here I cannot speak too highly of iodoform. It is the best nerve sedative known, and it can be used without fear of harm in quantities of 30 grains at a time. It heals, it has no local chemical action, it has no bad after-effects like opium. It does not constipate or disturb the liver or appetite. Its smell is its greatest objection, but by the free use of absorbent cotton, and a drop of oil of citronnella (made from a grass citronelle that grows in Ceylon, not used in medicine, but employed in the arts of the hairdressers), as suggested by Dr. Philip Leidy, of Philadelphia, the smell can be obviated to a great extent. I think those that use tobacco and discard iodoform are not consistent or wise, for tobacco is disgusting to many and a poison, while iodoform is one of the most valuable contributions of modern chemistry to medicine, and ought to be held in the highest esteem by women as a positive drug of remarkable medicinal powers. If the odious smell of tobacco is no bar to its use by so many millions as an æsthetic, the softer, but more persistent odor of iodoform ought to be no bar to its use as a drug. Tobacco smoke acts as an emetic on me, but iodoform soothes with the soft ease of assafœtida. The capsules administered are the 1-32 oz. vaginal, made by Planten & Son, and others. It is a good plan to order them filled by the apothecary, who will find a gold pen reversed the best shovel, and who should not allow the iodoform to be spilled on the outside of capsules. The patient can introduce them herself, and thus save the time and trouble of the physician. When there is vaginismus, the physician had better apply the capsules, and he will find them an improvement over the mode by the speculum, which to a virgin vagina, hyperæsthetic and contracted down to the size of one's forefinger, is barbarous without anæsthesia. If the capsules are dipped into water they will enter with more facility. If simply introduced dry, sometimes the capsules will stick tight as if glued to the mucous membrane, and it will cause pain to move them, and sometimes the capsules will be torn and the sharp edges lacerate the vagina, for it must be remembered that the most natural thing for the vagina when hyperæsthetic is to contract on to any foreign body, and cause the most exquisite pain. But the capsule when wet will slip in so quickly and smoothly, that it is fully introduced before the vagina has time to contract. Care should be taken not to wet the capsule too long before use, as it will then have such elastic walls that the pushing finger will penetrate its substance like a hernia. If the wall of the capsule is rigid there will be no trouble.

CARE OF A STEM PESSARY.

For the first few days care should be taken that there is no tenderness, that the rising of the uterus is met with another instrument, that the tension of the suspensory cord is maintained, not too loose and not too tight, and that the patient learns how to manage during defecation. This is done by loosening the belt before sitting on the water closet, holding with one hand in front the pessary just above the joint, and then turning the outside segment forward with the other hand, and, thus held with the first hand, use the instrument during defecation. When the function is concluded, hold, as before, the pessary firmly, turning the outside segment, and the symmetrical feel of the instrument will indicate when it is rightly placed; then tighten the belt. During baths the instruments should be kept in, but the belt can be replaced with a tape around the waist, as the wet webbing would be uncomfortable, if not dangerous. Never introduce a stem at the office, always do so at the domicile. The patient had better be so situated that she can keep still. It is well, sometimes indispensable, to have all clothing removed, save the nightclothes. The clothing should be suspended from the shoulders—chemiloons. It is folly to try to keep a womb in place when the corsets and clothes press down from above. If the patient feels any trouble, she should lie down and keep still till it has passed away. Should there be chills, fever, unusual soreness in abdomen or pessary to touch, the patient may remove the instrument and try again. The physician should examine vagina and see if the uterus rests down on the disc, if the vagina is not hot and dry, or tender on pressure. When the vagina is cool and moist let the stem remain. See that the uterus does not swallow the disc; if so, remove it. It will not answer for the stem to impinge on the fundus. Apply tannin capsules, and iodoform capsules, and intra-iodoform pencils. This intra-uterine treatment should precede the stem if the inside of the uterus is tender. I rely on the iodoform to relieve sub-involution or enlargement.

A stem pessary ought not to be worn when the uterine cavity is over three inches in depth, as the womb may bend over the end of the stem and cause trouble. If the rectum is hyperæsthetic, use the iodoform capsules. If the bladder is hyperæsthetic, examine for stone and for cryptogamic vegetations in the bladder. Never try to hold up a uterus connected with a tumor, or abscess or stricture. If there are adhesions of the uterus they should be broken up. The stem may be used when there are latero-versions and flexions. Always make a diagnostic exploration with the uterine sound, and move with care for fear of mistakes.

ARTICLE II.—SOME HINTS ON THE MANAGEMENT OF DYSPEPSIA. By T. E. MURRELL, M.D., Little Rock, Ark. Read before the State Medical Society of Arkansas, May 2d, 1884.

With due deference to Pavy, Fothergill and others, who have written especially on indigestion, the writer begs to offer some suggestions at variance with these gentlemen, for which he claims no originality whatever, but only considerable observation and a personal test.

The author of the methods to be mentioned is so well known in connection with them that to know the methods is to know the man.

A keen observer, an indefatigable worker, and a persevering investigator, his labors led to discoveries whose promulgation met with opposition because not in accord with orthodox theories. But, notwithstanding the lack of popular support, and a bitterness of opposition amounting to personal feeling, he maintained them fearlessly and boldly, never swerving or retracting, proving his faith by his works, and finally building up on the success of his treatment a most enviable practice.

Like all great discoveries in medicine, however, prejudice finally gives way, and he has now lived to see his discoveries receiving a recognition from the ablest men of this country. Dr. Salisbury will yet be accorded the credit due him for his great discoveries.

Errors in eating and drinking doubtless cause more sickness, suffering and premature decay than all other causes combined. It is a well-recognized fact that the majority of all sickness is due to some disturbance, directly or indirectly, of the digestive organs. It is also coming to be generally admitted that the majority of chronic maladies are attributable to malnutrition.

Blood is elaborated from the food one ingests; in other words, blood is manufactured food-stuffs. Hence it is apparent how important the proper selection of nutriment becomes to an individual.

Bees often make bitter honey by reason of the wrong selection of honey-producing products, notwithstanding the transformations produced in their singular and marvelous laboratory.

It is a mistake that man is chiefly vegetarian in his requirements. It were safer to say he is chiefly carnivorous. Even in the tropics, where it is deemed fruits and vegetables alone are sufficient for his wants, it has been proven to be a mistake, and animal food of some kind is not only craved and relished, but liberally partaken of.

Wherever the food is principally vegetable and fruit, there is commonly found a puny and cowardly people, readily succumbing to consumption and diseases of the digestive organs. India, China and Japan afford incontestable proof of this. Meat-eating people are strong, brave, vigorous and capable of great endurance, and seldom succumbing to consumptive or gastro-intestinal affections. Perhaps one of the greatest evils of what we call civilization is unsuitable food, both in quantity and quality.

Excessive, or over-eating, is harmful, and especially so when the food is unwisely chosen ; but a well and properly-fed animal, man included, will seldom eat to surfeit. The normal and healthy appetite engendered by judicious living draws the reins of restraint at the proper point, beyond which there is no desire to go.

Flattery enters into the kitchen, and to tickle one's palate with what modern housekeepers term delicious dishes and delicacies is to insure the highest encomiums of the gastronomic guest.

A lack of suitable employment of many persons calls for provocatives of the appetite, and false tastes are cultivated. But the chief error, deep-rooted and ineradicable, is implanted in us in our rearing. Our appetites are cultivated for sweets and farinaceous articles from our very infancy ; society is founded on this style of living, both rich and poor erring ; the one with his daintily prepared puddings, pastries and tropical fruits, the other with his rice, hominy or poor bread, molasses and coarser fruits, all feeding on the same class of foods, and imbued with the same ideas of the healthfulness of such living. The rule, and not the exceptions, of course is here given. Thousands of persons come finally, through false appetites and false notions, almost entirely to exclude animal food from their diet. As has been pointed out by a distinguished New York physician, " thousands of our women and girls are actually starving themselves to death ;" and, though to a less extent, the same remark might be applied to the opposite sex.

A little tea and toast, cracker or cakes, a taste, *a mere taste*, of meat, with soup for dinner, and pudding, pie, fruits or ices, and their day's bill of fare is named. What is the result of such a dietary ? Why, such enfeeblement of the whole system, nervous and muscular, that they become chronic invalids, whose powers of digestion are so reduced that they would inevitably suffer were they to eat a full meal.

Nervousness, headaches, backaches, pallor, cold extremities, emotional depression alternating in exaltation, are certain concomitants of such violation of nature's laws.

Next comes the class of large eaters, so called free livers. They eat everything, and many of them become dyspeptics in the popular acceptance of that term.

Now, note what they eat: some rich dishes of soup, meats and vegetables, followed by pastries and rich puddings, confections, etc. Of meats they usually eat moderately, while of vegetables, pastry and sweets they eat immoderately. Farinaceous and saccharine food constitute the bulk of their dietary. In other words, their food is about one-tenth meat and nine-tenths starches and sugars.

Among the contributory causes to dyspepsia there are none more potent than a too farinaceous and saccharine diet. Because many persons escape while so living does not argue against its inappropriateness. The same method of reasoning could be brought against any cause of disease. It is a common error that meats are only suited to strong digestions and active habits of life, while the sedentary, and those with weak digestion, should eat mostly farinaceous and vegetable food, with fruits. Only too frequently such erroneous opinions lead to general enervation and atonic dyspepsia, with a train of mistakes somewhat as follows: Coffee being commonly considered harmful to the dyspeptic is first discarded, and tea is substituted in its place. After a while the patient has doubts about tea, and dispenses with it. Milk being considered so bland and harmless is taken ad libitum. A consciousness of unpleasant consequences from it leads to cutting down the quantity to less and less, until finally he pronounces his anathemas on milk. Water is now his only drink, and he is actually afraid of it, lest it dilute the gastric juice! He still eats toast, rice, oatmeal mush, cracked wheat, graham bread, fruits, and occasionally cakes, puddings and other desserts. Not yet comfortable, he begins to cut these, dropping one and another, until he finally comes down to a cracker or two, or bit of bread, and a little water three times daily. He grows so weak his limbs can scarcely bear him up; he becomes hypochondriacal and pathophobic; he starves himself continually and tries to take exercise without muscle, and drags himself along, a sour crabbed, uncompanionable fellow, whom no one pities.

This picture is to life, and the subjects thus illustrated could be cited by dozens. Can one ever be cured of dyspepsia with such a dietary? Let experience and observation answer.

But suppose you advise your patient to eat more? Brown-Sequard, it is said, cures dyspepsia by feeding. The consequence of more food is such distress to the patient that he gladly starves himself for what little comfort he can get in this way. Dyspeptics do not receive the sympathy they deserve. Often and again have I seen active, vigorous, successful men in business lose hope, grow despondent in the midst of success, shrink from apparently secure investments, and grow cowardly, puerile and capricious from a sudden giving way of the digestive powers.

Of course, there are all grades of severity of indigestion, from occasional and slight to continual and severe; but in so far as it goes, observation will bear out the remark that the error, nine times out of ten, lies on the side of too much or too exclusive farinaceous and saccharine food.

It would be far beyond the limits of this paper to discuss the chemistry of digestion, and it will suffice to say, therefore, that the tendency of starch and sugar to ferment in the alimentary canal, when used too exclusively or too abundantly, leads finally, if persisted in, to a general enfeeblement: a perversion of function of all the digestive organs. The stomach and bowels become veritable "yeast pots," in which the process of fermentation never ceases. All the organs connected with the digestive act, the chylo-poietic viscera, become deranged in action, and hence the many varieties of dyspepsia.

Fothergill describes at great length what he calls "liver indigestion," which he attributes to a too albuminous diet, and puts such patients on starches and fruits, and does not deny the delectable "light pudding" and sugar in other forms. It is often impossible for two witnesses to see the same thing alike, but from my own standpoint I have observed the sallow and muddy skin, jaundiced eye, furred tongue, sick headache and nausea, of the dyspeptic to come from an over-indulgence in starches, sugars and fats. I know individuals who become "*bilious*," as they term it, from eating a few ripe peaches. Where is the overwork of the liver in these cases? In the sugar and starch dyspeptic vinegar yeast is formed in abundance in the primæ viæ, and thence finds its way into the blood, where it can be demonstrated with the microscope. There is unquestionable proof of this, as those who have had experience in such researches will testify.

It is difficult to convince many persons, especially dyspeptics, that a beefsteak is easily digested. They make the mistake of taking into the stomach with the steak quantities of fermenting material, which destroy the action of the gastric juice, or change its character ; or the stomach has already become so enfeebled from improper living as to incapacitate it for the solution of albuminous foods, except in the smallest quantities.

It becomes necessary, therefore, to prepare the stomach for the meat diet in order that it may digest it, and having once gained this power, the nutritive processes are stimulated in the normal manner, and healthful food is no longer obnoxious.

THE PREPARATION.

Hot water is, without doubt, the finest remedy known for chronic catarrhal conditions of the mucous membranes. For the stomach it is particularly fine. It dissolves the slimy mucus that coats this viscus, and washes away the soured yeasty mass; acts as a healthy stimulus to the gastric mucous membrane, muscular and arterial structures, reducing the submucous thickening and hyperplasia, and gradually restores this organ to a healthy state. Being readily absorbed it permeates the system, takes up and carries off by the emunctories effete and used-up material, and promotes that interchange of nutrient and waste matter so essential to a proper balance of the vital processes. Acting readily on the kidneys, it reduces the specific gravity of the urine, diminishes its acidity and lessens the amount of phosphates, urates and oxalates, thus bringing it to the normal standard of healthy urine.

The *London Lancet* is responsible for an article, widely quoted, cautioning against the free use of hot water as a drink, on account of the injury to the stomach that will finally result. Three years' use of it personally, and abundant testimony from others who have used it longer, lead to the conviction that there is no foundation whatever for any such fears.

In order to obtain the best effects from hot water, it should be taken an hour or more before meals and not less than three hours after meals. It then comes in contact with the mucous membrane, produces its immediate effect, tones up the stomach and makes it ready for food. If food is taken too soon after drinking the water, it does not agree so well; in fact, there is usually but little appetite until the water has been absorbed from the stomach, when it usually becomes very keen, and food is taken with great relish.

It should be taken as hot as can be comfortably borne, and sipped—not quaffed—in the quantity of a half pint to a pint. An error many dyspeptics fall into is the too little ingestion of water. Cold water, especially ice water, takes away the appetite and lies heavily on the catarrhal stomach; hence, they learn that they feel better when very little water is taken. The importance of a tolerably free use of water as a drink needs no argument, and hot water, systematically taken, meets all the requirements, besides its beneficial topical action.

FOOD.

The stomach having been prepared, as directed, for the reception of food, should be supplied with such articles as contain the most essential nutriment in the most easily assimilable and least fermentible form.

From previous statements it is clear that saccharine and farinaceous foods are to be regarded with extreme suspicion. While sugar is found in the body, and so abundantly in nature, it is extremely doubtful that, taken as pure sugar, it is at all essential to health; in fact, there is reason to believe that mankind would be blessed, in so far as health is concerned, if the manufacture of sugar was unknown. Abundance of sugar exists in appropriate food from which the chemico-vital laboratory of man can manufacture all that the system requires, and in a form that does not disagree. Such articles of starchy food as are wholesome and properly prepared should be taken in right proportion. Yeast-raised bread, sweet and free from fermentation, preferably of the whole grain of wheat, boiled rice, oatmeal mush, cracked wheat boiled, roast or baked potato, or plainly made corn bread should be eaten sparingly with the meat.

Lean, plainly cooked, preferably broiled, meats should be eaten with the farinaceous article.

For constant use there is no meat equal to beef. England to-day owes her proud distinction to beef. It is the only meat of which, when eaten fresh, one never tires. An occasional change is well, when mutton, lamb, venison, fowl, fish or oysters may be substituted.

All meats should be freed of skin, fat, tendon and marrow, and cooked by broiling. When the stomach gets stronger, roasts may be indulged in.

In the country, where fresh beef cannot be obtained regularly, the different kinds of game, fish and fowls should take its place.

As to quantity, the appetite is to be the guide; observing, first of all, that the quantity of farinaceous food is to be limited, while the meat may be taken *ad libitum* when once the way has been felt from smaller quantities in the beginning.

It is astonishing what enormous quantities of beef one can eat at a meal when bread is omitted or taken sparingly. The rule to begin with is to take, by bulk, one part of bread to four, five or six of meat. When the stomach and bowels are freed of all ferment, the proportion of bread may be gradually and cautiously increased, always preferring to err on the side of too little than too much bread.

A soft-boiled egg taken occasionally with the meat is wholesome and nutritive, as a rule, to which there are some exceptions. The meats should be seasoned with butter, pepper and salt to suit the taste. Fats are difficult to assimilate and dyspeptics should avoid them scrupulously. Butter is the most easily assimilable of all fats, and may be taken sparingly.

DRINKS FOR MEALS.

It is a prevalent belief that coffee is essentially hurtful to dyspeptics. This opinion is based on the fact that after taken in the manner usual it is tasted in the eructations, and because of palpitations sometimes following its use.

The cream and sugar taken in hot coffee begin to ferment and sour shortly after taken into the stomach, and cause the eructations, while the disturbed heart-action is reflex from a flatulent and over-distended stomach, as proven by the relief obtained from carminatives. Tea has less tendency in this way than coffee, but either tea or coffee taken clear, without cream or sugar, do not disagree with any one eating proper food.

Milk, though so universally considered by medical men to be the drink and food for those of weak digestion, is not generally acceptable to such persons. They, with many who make no complaint of indigestion, learn that the daily indulgence in a glass or two of sweet milk, even though drunk in the orthodox way—warm from the cow—in a short while sets up a duodenal catarrh, or so-called biliousness. Fresh butter-milk, and sometimes clabber, may agree admirably with such persons. Koumiss is questionable in fermenting dyspepsia. An instance in which I found the dejections loaded with yeast plant after a few days' use of koumiss has led me to distrust it in such cases.

WHAT TO AVOID.

This is the long list. It embraces every article of diet not named in the former list of what to eat and drink, with very few exceptions. A few of the juicy green vegetables may be taken sparingly, such as green peas, spinach, mustard, turnip greens, celery, etc., but not until the stomach has been gotten into tolerable working order. The patient is not going to suffer without them. The belief that fruits are light and wholesome has led many dyspeptics into great errors in an over-indulgence in them, both raw and cooked. If there is much tendency to flatulency, fruits are not wholesome in any form and should be avoided.

MEDICINES.

No case of dyspepsia was ever cured by medicines alone. The first and most important step in treatment is the proper regulation of the diet and habits, and then the use of such medicines as are necessary to meet the demands of the case. Some of the digestive aids, such as pepsine in its various preparations, pancreatine, or ingluvin may prove of advantage. The mineral acids sometimes assist. The simple bitters, as columbo, quassia, etc., may do good, but they serve more as provocatives of appetite than anything else. Nux vomica is decidedly useful in some cases. Among remedies, I know of none more useful than hydrastis canadensis in catarrhal dyspepsia. It may be advantageously combined with nux vomica. It is important that the bowels be kept, not simply regular, but open. A soft daily stool should be maintained. The simplest agent that will produce this is best. A little crab-orchard salts in the morning drink of hot water is very efficient. The vegetable laxatives combining tonic and laxative properties may be used.

I do not believe in the frequent use of alkalies to correct acidity. The hot water and meat soon cure this, and alkalies are best let alone. Under proper living, order is finally restored, and medicines are no longer in requisition. Above all, beware of too much medicine.

Quite a number of illustrative cases could be furnished showing the effect of the methods here set forth, but, lest this paper become tiresome, I will briefly relate three, each differing as to the cause and kind of dyspepsia, showing how one treatment reaches all without resorting to the varied treatment for stomach, liver and intestinal dyspepsia, as set forth by some of our able and popular writers :

Case 1.—Mrs. A., aged 26 years, subsequent to giving birth to a child, suffered ill health for several years, caused primarily by peri-uterine cellulitis and endo-metritis with retroversion. She became a most miserable dyspeptic, suffering agonizing pains over the stomach after partaking of even the smallest quantity of food. Later her bowels became involved, and she suffered from repeated attacks of dysentery, greatly reducing her strength. Melancholy, despondency, and all those depressing symptoms characteristic of such sufferers, fell to her lot. At my suggestion she adopted the meat diet and hot water. The latter she never carried out systematically, but the former she did. Relief soon followed, and repeated attempts at a return to her old method of living so upset her stomach and bowels, every time, that she came squarely down to meat and toast ; even rice would sour on her stomach and produce pains. Parenthetically, I would remark, rice is put first on the list for ease of digestion, one hour being the time supposed to be required, but many of the cases of fermentative dyspepsia cannot eat rice without aggravation of symptoms. Mrs. A., was finally persuaded, contrary to her judgment, by an eminent physician, who ridiculed her mode of living, to eat oatmeal and cream in order to fatten her. She indulged just a few times, and thereby brought on one of her old attacks of dysentery and acid dyspepsia, requiring weeks to recover from. No persuasion after this could change her from her meat diet, and she was rewarded by constant and steady improvement in every way. Local treatment also greatly relieved the uterine trouble. This is what may be termed reflex dyspepsia.

Case 2.—Mr. W., about 35 years old, had been a dyspeptic for more than ten years, and had visited watering places every summer, and received much medical advice, whereby he spent a right handsome fortune. His dietary had been chiefly farinaceous, and more and more exclusively so as he grew worse, and of course he grew worse and worse the more exclusively it was so. When I saw him he had reduced his fare to a tiny bit of bread or cracker, and a little water, three times daily. He was so feeble he could scarcely walk, and had that strikingly peculiar, muddy, sallow complexion, so characteristic of these cases. Upon my persuasion he adopted the hot water and meat treatment, and one year later was able to do a full hand's work on a farm, and in two years was stouter and heavier that he had been for a great many years. He still remains healthy after three years, and continues to adhere very closely to meat and hot water.

Here is a faith and perseverance worthy of the highest admiration. This patient was extremely prejudiced against coffee, and only consented to try it again on my pledging myself responsible should he suffer from it. I gave him a cup of clear, strong coffee, the first he had taken for years, and to his utter astonishment he "never heard from it," to use a familiar phrase. He has used it ever since, always taking it clear. It would be as well to say just here that the manner of drinking coffee is from habit, and any one can, in a few months, acquire a taste for it without cream and sugar, and finally come to like it better than with them. This taste I have acquired, and I now relish a cup of good coffee as I never did before.

Case 3.—Mrs. M., aged about 40, a frail, delicate woman, for many years an invalid, suffering from sick headaches, sour stomachs and vomiting. The latter was liable to come on her at any time, for which reason she dreaded going out, and had almost quit appearing in public. I chanced to examine her blood, and, having called her attention to its revelations, she gave me the above array of symptoms.

Her diet had been almost exclusively breads, vegetables and fruits, she being particularly fond of hot rolls. She also partook of desserts and, a fancy of hers, toasted cheese, which she imagined agreed with her. She was advised to abandon every kind of food except meat and a small quantity of toasted bread, and to drink a half pint of hot water three times daily, an hour before meals. She had a prejudice against beef, so she was allowed lamb, mutton, birds or fish. She began the treatment at once, with some misgivings, however, especially as to the hot water.

It is now some two months since she adopted the new rules, and she and her husband, who is an intelligent physician, declare that she has not been so well for years, and she has not vomited a single time since its adoption. Her enthusiasm is unbounded, and from present indications there is every reason to believe that here an old catarrhal stomach will in time be entirely cured by this method of treatment.

These cases are briefly cited merely to show the happy effects of meat and hot water in different kinds of dyspepsia.

You will notice that no mention has been made of medicines in any of these cases, for the simple reason that very little, almost none, was taken, the main reliance, and in the third case the sole reliance, being the diet.

A distinguished physician, and friend of mine, told me when I was living almost exclusively on beef, that I could not endure it long; that my health would fail; I would become scorbutic, the system would demand a change; experience had proven it.

I found him mistaken in my case. The longer I lived on beef the less I cared for sweets and farinaceous food and the more fond I grew of meats; and instead of developing scurvy I felt better and better every week. The commonly-accepted opinion is that vegetable food is essentially anti-scorbutic, and a meat diet alone will certainly induce the scorbutic cachexia.

In his arctic voyage, Lieutenant Schwatka had an experience that adds much to our knowledge on this subject, reported in the *N. Y. Medical Record* of September 23d, 1882. His observations appear conclusive, that the cause of scurvy among arctic voyagers is not a lack of vegetable food, but of *fresh* food, animal or vegetable, and that of the two the animal is the better. He says: "My party of four white men lived on nothing but fresh meat, often raw, for a period of nine months, and were surrounded by all the known auxiliary scorbutic causes besides, and could have only escaped it, in my opinion, by this very diet."

Mr. Neale, Surgeon to the Eira Arctic Expedition, adds similar testimony in his statements before the Medico-Chirurgical Society of London.*

The American Indian, in his native state, is known to have lived exclusively on meats the greater portion of the year, and no people ever exhibited finer specimens of physique, displayed greater powers of endurance, or were freer of constitutional diseases.

It is important that the meats eaten should be fresh, not dried, salted or pickled. No one need ever fear scurvy or any cachexia while living on fresh beef alone, although in the methods here described farinaceous food is not entirely withdrawn.

One very marked effect of this system of diet is a sense of weakness or languor that comes over the patient after a week or two, and continues several weeks, or may be several months in some cases. This is due to the abrupt withdrawal of the accustomed food, whereby the system lacks its usual stimulus. Gradually, as the system is adapted to the change, these symptoms disappear, and then come vigor, felt in both mind and body, freshness, buoyancy of spirits, and those agreeable impressions of "life is worth living for" so characteristic of a perfect and harmonious order in the vital processes.

The skin becomes clear, the eye bright, the step elastic, the tongue clean, the secretions normal, the excretions properly performed, the appetite uniformly keen, and food is relished, and the individual feels the exuberance of a perfect physical existence.

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* Vide London letter to *Y. N. Medical Record*, March 24, 1883.

EXERCISE.

To persons of sedentary habits it is common for the medical adviser to direct daily exercise for the dyspeptic without, perhaps, specifying any particular amount or kind. There is no question but that exercise is as often injurious as beneficial to the enfeebled dyspeptic. These people are incapable of much exertion, and, starting with the impression that by forced exercise they can strengthen themselves, each effort ends in fatigue and depression. Exercise should never be followed by a prolonged sense of weariness or fatigue. As to the kind of exercise, it should be varied, so as to bring different muscles into play; but for the feeble, horse-back riding is the very finest known. As much riding in the open air as falls short of fatigue should be taken, to be followed by other kinds requiring more muscular exertion whenever the strength will admit of it.

General directions in reference to social and moral influences apply here as in all in other instances, and require no special mention.

The main point to which attention is called is the use of hot water taken as a drink, and the diet of meat, mostly beef, to the large exclusion of farinaceous articles, and the entire restriction of saccharine food.

These directions are to be strictly followed until the skin becomes clear, the tongue clean, the appetite normal, the urine uniformally of a champagne color, neutral or faintly acid, specific gravity of 1,015 to 1,020, and depositing no sediment after standing twenty-four hours, and all tenderness over stomach, flatulency, heartburn, eructations, etc., entirely gone for some time. When this is the case, the proportion of farinaceous food may be gradually and cautiously increased, and vegetables sparingly added, until, after carefully feeling the way and no unpleasant symptoms having arisen, the patient may again be introduced to a general bill of fare, with the admonition not to err again on the side of a too great proportion of such foods as have been shown to be harmful.

An excess of sweets and starches are certain to bring a return of the old symptoms, but a timely resort to hot water and beef will restore all to health again in a very few days, and there is an end of it.

Those who will take the pains to give these suggestions a practical application will find, I am sure, that they will do all that is claimed for them.

Article III.—Somewhat about Intra-Uterine Injections after Child-Birth.

By Rufus W. Griswold, M.D., Rocky Hill, Conn.

In March of 1880, under the heading of "Supererogatory Procedures," I wrote up for and had printed in the *Philadelphia Clinical News*, a criticism on some papers then lately published in advocacy of intra-uterine injections after child-delivery, calling in question the efficacy and necessity of the proceeding to the degree that some of the lights in obstetric science were endeavoring to inculcate. The more particular observations to which I took objection were some reported remarks of Dr. Edward W. Jenks, of Detroit, some observations of Dr. Wm. H. Parrish, of Philadelphia, in the *Clinical News*, and a statement by an unremembered medical gentleman, copied into the *Louisville Medical News* from some other journal. The last of these was substantially that in thirty recent consecutive confinements, the writer had used diluted carbolic acid intra-uterine injections in each case, after the birth, and had had in them no single case of peritonitis or septicæmia; that of Dr. Parrish, of the Philadelphia Hospital, was that he agreed with Dr. Jenks in " the absolute necessity of vaginal, or of intra-uterine disinfecting syringing;" that it was his " custom, after normal labor, to have the vagina injected with hot water," and " if there was reason to apprehend the continued presence of portions of the placenta, etc., in the uterus, the same injection was made into the cavity of the uterus within the hour after labor;" and that of Prof. Jenks, as reported, was that, while he would not recommend irrigation of the internal uterus in all cases after labor, he yet quoted the statement that one author had used intra-uterine injections in 3,000 cases with good results—a fact which went far to prove the harmlessnesss of the practice —the animus of the whole being in effect to teach us that the best practice was to clean out every recently-emptied womb with some disinfecting wash; against which I had the temerity to put in a demurrer. I am disposed to something like a repetition of the views expressed in 1880, from having recently noticed in some of the New York journals a report of a discussion on this subject by the New York County Medical Society.

It can be laid down as a good philosophy to be applied to the practice of obstetrics, that the methods of procedure which give equally good results with the least of fuss and trouble are the best to choose. It can also be laid down as a good philosophy that when the introduction of new methods does not give any better results than were obtained before, it is folly to pursue them; and especially so if they make extra trouble and disturbance, and still more especially so if they have in them potentialities of actual and acknowledged danger. Applying this to the matter in hand—if the use of intra-uterine injections employed as the rule does not lessen the mortality following child-bed confinements and abortions, then the procedure is a supererogatory one, and there can be no reason for it except an increase of fee to the practitioner for the extra trouble in his obstetrical cases; and as this reason will not be allowed to be valid and sufficient, there remains no sufficient reason at all for washing out a puerperal womb, except in rare instances. Now let us see something as to results.

When I read that some practitioner " had used intra-uterine diluted carbolic acid injections in thirty consecutive confinements, after the birth, and had had in them no single case of peritonitis or septicæmia," it occurred to me that the statement was intended to be a weighty argument in favor of the efficacy of that procedure as a prophylactic measure; and that it was to be taken for granted that there was between the procedure and the absence of disease the unquestioned relation of cause and effect. That is a rational conclusion to be deduced as to what was the intention of the practitioner who made the statement, and as to the view he took of the relation of cause and effect. The statement involves a logic that at first glance seems rational and valid; but it is a logic that is as illogical as anything can well be; it is a logic that is calculated to deceive, though not usually intended to do that; it is a logic quite too generally received in etiology and therapeutics as well, but which is utterly fallacious, and which almost always crumbles to pieces upon critical examination. The fallacy of it will appear as soon as we consider this fact. There are thousands of practitioners in the country who have confined not only thirty, but three times thirty women consecutively without having a case of peritonitis or septicæmia among them, and yet never used an intra-uterine carbolic acid injection in a single case of them. What then was the relation between the absence of disease in the thirty cases spoken of and the fact that they were washed out? What reason is there for supposing any of them would have had septicæmia if they hadn't been washed out? Is not the implied supposition that but for the supposed prophylactic procedure there would have been puerperal trouble, wholly gratuitous? If of thirty cases in order half of them had been irrigated, and all escaped fever, and the other half had not been irrigated and a considerable portion of that half had had fever, there would have been some evidence of value in the irrigation; but nothing of that sort appeared. I protest against the validity of the conclusions drawn from any premises such as are herein spoken of. True, it is not explicitly stated in this sort of argument that septic poisoning is to be generally expected if the uterus is not washed out; but it is to be legitimately inferred that, in the view of the writers who make the argument, we may often expect it if we neglect the procedure; the logical inference is that they credit what they call their good results to the use of the irrigation, and the evident and avowed object is to inculcate the lesson that it is not only expedient to flood out the womb in a pretty large share of cases after delivery, but that if we would escape septic poisoning after births, at term, and after abortions, it is absolutely necessary that it should be done.

Is this really so? or is it in the great majority of cases only a supererogatory procedure? Have we all been living in the shadow of obstetrical darkness? or, rather, is there not danger that some of the men in the front rank of the profession may lead our younger practitioners into a method of treatment not only not necessary, but admittedly not devoid of danger? Shall we not be likely to cause more mischief by such interference as is counseled, and produce more fatality with it, than we should have if we let it alone, except in the very few cases where it is clearly indicated as essential? These are important questions; they cannot be rightly answered except by carefully observed results. As to some of these:—

My obstetrical experience is not large enough to be boasted of; it does not number up like that of some of the fortunate men who write up books upon and teach in obstetrics; it covers only some 600 or 700 cases of term-delivery and abortions. But it is worth something to use in this connection, because it is definite, certain, tangible, and it affords a respectable basis from which to make a point as opposed to the teaching we have been considering. The fatal results have been one case from placenta-prævia, one from convulsions, and one (in the last year) from an inflammation coming on nine days after delivery, and which involved abdominal peritoneum, cellular tissue, and uterus, and all this complicated with malarial poisoning. I do not know that there was septicæmia in this latter case; but put it that there was, if you choose. I do not think that uterine irrigation would have prevented that case; but we will admit that perhaps it would, so as to give the syringe all the credit possible to be claimed for it in my cases. I have had no deaths follow abortions or miscarriages; have had some cases of puerperal peritonitis proper (successfully treated with morphia), the results of exposure to cold, etc., after confinement, but none of a septic character except the one noted. Occasionally I order a vagina washed out, and this, more particularly, after the removal of a tampon, but I have never used intra-uterine injections in a single case. Culpably neglectful, do you say? Look at the *results.* Does indiscriminate uterine irrigation with disinfectants show anything better? Does discriminate irrigation show better?

But this is only one personal experience; and, though better for me than the personal experience of any other man, however brilliant, it is not alone a sufficient basis to be content with. No one should be so egotistical as to attempt standing upon his own observation alone, if his observation is in opposition to that of the majority of others; he may not abandon the teachings of his experience to blindly follow that of another opposed, but it is his duty to call his observation in question and put it to the test of comparison. Proceeding from this, let us look at some test of comparison.

As the conclusions in my paper in the *Clinical News* (alluded to at the beginning of this) were objected to, for the reason that they appeared to be chiefly based on my own experience, I took the trouble to collect something from the experience of my neighbors, and see how they would tally in the comparison. Generally, I knew that their procedures in midwifery cases were much like my own; that the results were not less satisfactory, and that they did not do much at washing out recently-emptied puerperal uteri. But it is a good thing to come down to specific conditions and results now and then if you can. When I read, as quoted, in favor of the washing-out process as a preventive of disease, the statement that Richter had made use of intra-uterine injections in three thousand cases "*with good results,*" I was captious enough to ask what "good results" meant. "Good results" is a very broad designation, that does not mean anything specially; it is not a reliable basis for any satisfactory conclusion; it does not satisfy any critical mind; it is not a foundation on which any one looking for facts can stand. With the hope of eliciting something better, I addressed to some twenty-five of my personal acquaintances in adjoining towns, all of whom were known to have been long in practice, and known also to be reliable, these queries:

How long have you been in practice? How many obstetrical cases attended? How many abortions? How many fatal cases of puerperal fever, or fatal cases of septic poisoning having origin in a condition of the womb that a washing out of it might have prevented? To what extent have you used intra-uterine injections after delivery at term or after abortions?

Nothing in the letters of inquiry indicated my own views on the subject. Replies were obtained from fifteen men, all experienced, intelligent, practical and sound. If none of them are distinguished and eminent, like gentlemen in the college faculties and hospitals, then, in view of the results obtained, so much the worse for the advocates of the free use of prophylactic and therapeutic womb-washings after delivery, since they show that even with an ordinary practitioner there is no necessity at all for that procedure except in a very limited number of cases, admitting even, which by no means follows, that all the fatal cases of puerperal or septic fever reported might have been saved by injections. The reports were from: Dr. A. S. Warner, Wethersfield, 32 years (in 1880) in practice; Dr. E. Brandagee, Berlin, 39 years; Dr. C. H. Hubbard, Essex, over 20 years; Dr. A. Woodward, Franklin, over 50 years; Dr. C. E. Hammond, Portland, 32 years; Dr. G. W. Sandford, Tariffville, 51 years; Dr. Ira Hutchinson, Cromwell, 54 years: Dr. S. L. Childs, East Hartford, 45 years; Dr. R. Strickland, Enfield, 41 years; Dr. E. B. Nye, Middletown, over 40 years; Dr. Wm. Wood, East Windsor Hill, 33 years; Dr. R. A. White, Simsbury, 38 years; Dr. G. W. Russell, Hartford, over 40 years; Dr. S. W. Turner, Chester, 32 years; to which add the writer, in practice 26 years. The reports covered an actual bedside experience safely put at over 17,000 cases of midwifery and miscarriage. The fatalities reported as chargeable to septic poisoning or puerperal fever were given—Warner 1, Brandagee 4, Turner 3, Hutchinson 1, Wood 2, White 1, Hammond "none in a long time" and not any given, Nye "a few," Strickland "several fatal cases," Russell none mentioned; the other five not any. In three of the seven cases mentioned explicitly as septicæmic, intra-uterine injections were used without saving result; in two or three cases (Child's) with evident benefit. Of the 15 reporting, nine had never used intra-uterine syringing after delivery, except in one case, to arrest hæmorrhage; three reported use of the procedure in four or five cases in all; and three did not state whether they had or not, but left the inference that they had not.

Now, although exactitude in all the matters of this inquiry was not attained, the replies justified the conclusion that in these upwards of 17,000 reported cases of confinement—at term or short—the fatality from puerperal fever, both inflammatory and ichoræmic was not in excess of one in the 1,000; that intra-uterine injections, either as prophylactic or curative, as against septicæmia, were not more in number than the deaths, and seem to have been less; and that in a third of the few cases where they were employed they did not prevent fatal results. What then becomes of their laudation as a utility? still worse, of their necessity? It will be seen that my conclusions in the matter, based on personal experience, are fortified beyond successful assault by the experience of my neighbors, being practically indentical with them.

The circumstances under which the 17,000 cases of midwifery reported were met by fifteen every-day practitioners—none of them celebrated as especial adepts, nor widely known of in the literature of obstetrics; none of them conceited enough to arrogate any superiority over their other Connecticut brethren as being especially successful in the management of lying-in cases—were such, and as varied as the circumstances under which 99 per cent. of the obstetric cases of the country are encountered by other practitioners. The results given were obtained by ordinary, but sensible and judicious men, in an actual everyday experience; by men not inadequate for emergencies, but so evenly balanced as to refrain from ill-devised interference in the absence of emergencies; and they are the more valuable because so obtained. The irresistible conclusion from the results—the conclusion that is impregnable and cannot be undermined—is, that when we are advised to the frequent use of intra-uterine irrigation after ordinary labor (as *vide* Richter with his 3,000 cases), we are advised to an unnecessary and unjustifiable procedure; to a humbug, not simply harmless, but that is dangerous, and has been often fatal; to a humbug unfruitful of compensating good.

And now as to the dangers. These are admitted, even by the advocates of the procedure, but usually with the qualification that they may be avoided by proper care. But as they have not always been avoided, the plea put forward that they *can be*, is equivalent to the charge that more or less of the use of the method has been accompanied with criminal carelessness. Now, the truth is, that the procedure is fairly chargeable with a small amount of fatality; it will be found as certainly true that the general use of it will occasion still further deaths, howsoever careful those who employ it may endeavor to be. The experts in gynæcological manipulations may avoid fatal results in all their cases, perhaps; but when we who are not experts (and this class covers in 95 per cent. of us) follow after the experts in this matter, we shall make some jobs for the undertaker, that but for our endeavors in that way would not have been. It is not necessary to attempt speaking of the deaths in detail that have been reported. I do not know that they have been many, but there have been some put in print; the probabilities are that there have been many more that have not been related at all, since, wisely, perhaps, so far as one is personally concerned, fatal misfortunes from manipulative procedures are best left out of public sight. Theoretically, the dangers of the procedure are stated by Dr. Smyly, of the Dublin Rotunda Hospital, to be "irritation, producing nervous shock, resulting in hystero-epileptiform convulsions, even ending in death, as in some cases reported; displacement of uterine thrombi, causing hæmorrhage; overdistension of the uterus, giving rise to inflammation; escape of fluid into the abdominal cavity, causing peritonitis; entrance of air into the uterine sinuses, producing phlebitis." Besides these, there is actual carbolic acid poisoning, when that disinfectant is employed; also the possibility of communicating the very disease intended to be prevented, by infection from septic instruments used in the operation; and not the least, the disturbance to the patient generally, and of the genitals locally, at a time, beyond all others, when a chief factor of satisfactory progress, rest, is especially to be desired. Max Rungel has shown that an epidemic of puerperal fever was actually spread by the use of utero-vaginal injections at the Berlin Charité Hospital; and lately, we are told that in Germany, where the procedure has been much in vogue, it is now mostly abandoned.

But dismissing the matter of actual fatality from the procedure, what good results have been demonstrated? The *Edinburgh Journal* for April, 1880, had a report from some experiments made by a German physician, with the result that in 260 cases where injections were used after normal deliveries, there was general disturbance in 42 of them, while in 249 other cases, where injections were not used, there was after-disturbance in but 19, and the disturbance in the first series of cases was more severe than in the other. In other words, the cases that were let alone got on best. The results given lately by Dr. Jewett, of the Long Island Hospital, are not quite so marked in opposition to the procedure; the statement being that where every other case was injected —that is, first one treated in that way and the next not, for a number of confinements, no difference in results appeared ; justifying my expression—supererogatory procedure.

From the reports in the medical journals of the professional mill by some of the mugwumps of the metropolis on this particular subject, and other measures closely connected with it, I have not been able to get anything to change the opinion rationally to be deduced from my own experience and the corroborative experience of the country practitioners reported to me four years ago. I am justified in concluding that that experience is quite as worthy of attention and respect, and a deal more safe to follow, than the reported experience of those masters in the profession who counsel and approve of general intra-uterine injections. It is quite true that some of the practitioners who indulge in womb-washing (as Dr. White) report what may be fairly called good success with their lying-in cases ; but it is also true that others who do not indulge in the procedure except in rather critical cases (as Drs. Baruch and Garrish) have been fully as successful. I am, therefore, inclined to repeat something of my language in the *Clinical News* of four years ago.

" There is immensely too much fussy tmpering with the recently-emptied uterus. The treatment that gives us the best results with the least of fuss and feathers is the treatment that commends itself to the rational practitioner. The process of parturition is a physiological process ; the process of cleansing the womb after parturition is also a physiological process. It is not a good practice to interfere with it till a pathological condition has supplanted the physiological one. The evidence I have collected and presented shows that the procedure of intra-uterine injection is but seldom necessary after confinement as a curative treatment ; that it is still less seldom to be advised as a prophylactic, and that in the immense majority of cases its use is not only a supererogatory procedure, but that it is eminently a vicious one. The medical world at the present day is sadly afflicted with the septicæmic fever. About all of us have it badly. It has become a fearful hobby. Every possible pathological condition that cannot be otherwise definitely determined is referred to the poison of septicæmia. It is like the city horse-car—never so crowded but one more can get into, or on to, or under it. If we have a patient ready to die, and cannot quite determine the cause for it, it is perfectly safe to charge the result to septic poisoning. Under that mantle we may cover all our doubts. . . . . The medical world is at present within the great cycle of septicæmia, on one side of which is the cycle of disease germs, and on the other the cycle of disinfectants. The three form a triple halo of cause, of effect, and of antidote. There is some danger that the halo will become so dense as to constitute a fog, in which, if we are not lost, we may wander away from the paths of rational treatment into those which are irrational and supererogatory."

Shall we not, then, have any womb-washing ? Certainly, yes ; but it is not to be a wholesale business. The circumstances in which it may be advisable require careful consideration. The term puerperal fever covers a varied class of conditions. It is not sufficiently explicit as a basis whereon to talk of the utility of intra-uterine irrigation. Without going far into a discussion of the etiology of the differing conditions treated of in the books under the general head of puerperal fever, it may answer our purpose to indicate, what every man of much experience must have observed, that there are two general very widely differing conditions commonly classed under that head. One of these is more properly puerperal peritonitis, the outcome of exposure and catching cold, or of some over-exertion or dietary indiscretion, or of some injury before, at or after delivery; not always, not particularly, and, perhaps, not all, involving the uterus, though there may be metritis and cellulitis, one or both, as well as peritonitis; an essentially inflammatory trouble, such as was formerly treated by blood-letting, calomel and antiphlogistics generally, but which we now attack successfully with opium to narcotism and fomentations to the abdomen. It is not rationally to be expected that womb-washing will be of benefit in this condition. Discriminating and sensible authors do not advise it; but the inference from the practice and theories of Schülein and Richter, and of some American writers who have tried to follow them, involves this and more. The single fatality from childbed fever (hereinbefore alluded to) which came to my account after a practice of thirty years, may be noticed as a possible example in this first general class. Delivery of the child was followed by an ugly hour-glass contraction of the womb, not symmetrical, but above the upper third of the organ, which gave more trouble in the dislodgment of the placenta than I had ever before had in any case. Now, although a retained placenta from hour-glass contraction was not new in my experience, and manipulative dilatation of the contraction was nothing new, it was the first time I had seen puerperal fever *follow* the manipulation. And, though it was nine days after before tenderness of the abdomen, with its accompanying fever, began, I am more inclined to the opinion, unpleasant as it may be, that the initial factor of the after disease was rather in what seemed to be a necessary manual interference for delivery of the secundines, than in the introduction of germs and consequent septicæmia. It would have been more agreeable to have considered that case as a septicæmic fever; but *was it?*

The other general class may be taken to include those widely-differing manifestations not purely inflammatory; sometimes obscure in their origin, independent of any indiscretion on the part of the patient, and of any injury and of any traumatism whatever: often obviously connected with some contiguous disease; directly or indirectly communicated; epidemic, contagious, infectious; conditions about which learned obstetricians have written much in the hope of deducing harmonious views etiologically; conditions in regard to which there is still much diversity of opinion, but around which it is at present fashionable to cast the net of septicæmia as capable of covering in the whole. It is because the etiology of the various conditions is not definitely understood that it has become the way to call them all cases of septic poisoning. I am not unwilling to admit that I do not quite understand all this; what is more, I am not acquainted with any one who does. Semmelweis and Hervieux formulate it—"Puerperal fever is due, as a rule, to the septic inoculation of the wounds which result from the separation of the decidua and the passage of the child through the genital canal;" and the editor of the *Medical Record* lately tells us that this view "has been acquiesced in almost unanimously." I am contrary enough not to be in the unanimous crowd as to that matter. To admit this theory as true is equivalent to saying that the *commencement* of disease in all cases of puerperal fever is upon the exposed surface of the genital canal; it makes it all primarily a local trouble. There is room to doubt the correctness of that; there is the same room for doubting it as there is for doubting the view that diphtheria is primarily a local trouble; and diphtheria is no more primarily a local trouble than is small-pox or measles. The commencement of disease-action in puerperal fever is not always in the surface of the genital track; it has its starting point sometimes in the peritonæum, and sometimes in the cellular tissue. Similar action is set up, and similar phenomena evolved in other parts of the system, in the absence of wounds and at points closed from septic inoculation by disease-germs. But, *as a rule*, say the theorists. Well, what as to those cases which are not as to the rule? But this aside. It is against the forms of puerperal fever included in the last indicated general class that the procedure of intra-uterine irrigation is supposed to be advised. The theory that in their etiology they are all diseases of poison, either from an essential unity, or, if of diverse natures, still creating the same result; that certain drugs have the power of destroying the vitality of that poison when brought in contact with it; and that, by irrigation of the wound where the poison has become localized (the recently-emptied uterus being, in this connection, the wound), the potency of the poison is destroyed, and the disease thereby either prevented or cured, is a theory that is beautiful on paper, and with many another the like is plausible if not always true. But the soundness of that theory has not been demonstrated by results as regards the use of intra-uterine injections. The conclusion that, because after a given number of consecutive child-births, injections having been used, and no cases of puerperal septic poisoning following, therefore the procedure has proved prophylactic, though it may seem only short-fetched, has nothing but an illusory basis. The fallacy of the conclusion is apparent when we put against it the *fact* that a given, or even greater number of consecutive child-births, in the hands of some other practitioner, no injections at all having been used, have also not been followed by a single instance of septic poisoning. But it is exactly that sort of flimsy argument that is advanced to bolster the utility of uterine irrigation. A reasonable faith ought to have some better basis whereon to anchor.

But, stepping from prophylaxis to cure, let us look at that a little. We are told that Richter, who has been approvingly quoted as having used womb-washing in three thousand cases with *good results*, "made use of *other remedies* in the treatment of puerperal disease, so that the success attending his practice, while principally due to uterine injections, cannot be attributed exclusively to their use." "The chief medicine administered internally was salicylic acid, while in some instances, for the purpose of controlling inflammatory indications, leeches or ice were applied to the abdomen," that "while he was convinced that he obtained better results in puerperal diseases from intra-uterine injections than had heretofore resulted from any other treatment, he deemed it essential, in some severe cases, to have recourse to additional therapeutic means"—which leaves open the door for a captious critic to remark that the potency of the irrigation in his cases is an undetermined matter. The statement seems much like giving the whole case away, and leaving the efficacy of the irrigation in doubt. One is reminded by it of the practice of the homœopath, who, putting his incomprehensible infinitesimal into a tumbler of water to be taken by the teaspoonful once an hour, then proceeds to use "additional therapeutic means" for the recovery of his patient. If the patient gets well, he is taught to believe that the dilution from the tumbler was the chief potency; and is not to be blamed for so believing, since he has never had opportunity to learn better; but the practitioner who asserts that the chief potency of cure was in the tumbler is either a knave or fool, or a little of both.

I shall hope not to be understood as deprecating uterine irrigation in all cases. While I can say, with one of the physicians replying to my letter of inquiry, that certainly no case has come to me where intra-uterine injections, either as prophylactic or curative, have seemed advisable, I can conceive of a case where such a procedure might be important. No experienced obstetrician will forget that, although he may have attended a thousand cases of midwifery, the case that is awaiting him to-morrow may present some phenomena he has never before encountered, and require some procedure he has never before adopted. In the paper alluded to at the commencement of this article I used this language: "In the presence of epidemic diphtheria, of erysipelas, of scarlet fever, of previous cases of puerperal fever; in crowded and not over-cleanly hospitals, (I should have said in Bellevue Hospital especially, of which some enthusiastic sanitarian ought to make a holocaust), in other specific conditions of probable danger—the treatment in picked cases may be warrantable." That language covers the limit of license in that direction. That resort to it is *very seldom* necessary, the experience given by the gentlemen to whom I addressed letters of inquiry on the subject fully proves; and that where it is not clearly indicated by some special reason as necessary it had best be left untried, is not less fully shown by the disagreeable, and sometimes fatal results following it, as given us in the literature of obstetrics. When, following after some of the modern writers, the accoucheur goes to the lying-in bedside with a forceps in one hand and a uterine syringe in the other, and a disinfecting carbolized vaginal pad in his coat-tail pocket, with the expectation of using the first in every other case and the other two in every one, it will be as well to relegate the business of midwifery to those ancient dames who formerly practised it; for, if the old women have less success in difficult cases, they will balance the account by doing less mischief in the normal ones. Certainly, until the enthusiasts for uterine irrigation can show us better results than heretofore reported, and better than have followed former methods of practice, the sensible practitioner will not feel justified in invading the interior of a healthy womb with injections, in fancied pursuit of a septicæmic germ that exists only in supposition.

I have been led to the essential iteration of views on this subject expressed four years ago, because the procedure is still ardently championed by some of the brilliant lights of the professionun—fortunately, it seems to me. Utero-vaginal injection in child-bed is a practice of great antiquity, lapsed into desuetude, but revived in the third quarter of the present century more especially, and within the last ten years brought conspicuously to the front. The reason for this conspicuity is the reception of the dictum of Semmelweis, that "puerperal fever was, without any exception, a fever of absorption, arising from the absorption of decomposed animal organic matter," inducing the belief of the identity of the fever with ichoræmia, septicæmia, and pyæmia—these terms being used somewhat synonymously. On this has been engrafted the doctrine of disease-germs, and then the practice of germicide disinfectants as the sublime and all-sufficient antidotes. Whether Semmelweis meant that this fever, without any exception, was caused by the absorption of the matters left within the genital tract after parturition, or the reabsorption of the matters first excreted by the wounded or irritated and inflamed mucous surfaces, or that the surface was first engrafted with some poisonous factor from without, does not appear, and need not materially affect the question of treatment. The dictum laid down by him, that all cases of puerperal fever arise from absorption of putrefactive matter is not true, if applied to puerperal fever in the broadest sense of that term; if applied to septicæmic puerperal fever there may be reasons for accepting it as true. But if we accept it as true, it none the less remains certain that the treatment of irrigation theorized out of it has not warranted adoption as a prophylactic expedient to anything like the degree recommended, nor as a curative one. And now, as the great body of general practitioners turn to the book-writers and college professors for instruction and counsel in all matters of treatment, and are prone to adopt the sensible therapeutic measures and manipulative procedures emanating from the hospitals over which the book-writers and college professors preside, and from which the lights that illumine our professional pathways are supposed to be diffused, it may be respectfully submitted that it is well to be so far conservative as not to give us advice which our common sense rejects and our experience condemns. Because intra-uterine irrigation after parturition is, by the experience of thousands of general practitioners condemned as a supererogatory procedure in ninety-nine of a hundred cases in ordinary practice, and because also it is accompanied with considerable danger, I put in this counterblast on the matter.

Article IV.—A Case of Hypertrophy of the Heart. Written expressly for Gaillard's Journal by Dr. J. W. C. Cuddy, Baltimore, Md.

The following remarkable case of cardiac hypertrophy presents many interesting points as regards its history, course, duration and treatment, but I especially wish to call attention to its pathological condition, as shown by post-mortem examination.

On the 26th of July, 1883, I was called to see G. W. S., a young gentleman in his 28th year, of slight build, but with a remarkable family history, his entire connection living to a ripe old age. I found him suffering with acute articular rheumatism, evidently developed by a long walk taken on the preceding day. I saw him within a few hours after his first symptoms had shown themselves, and for nearly eight months he was constantly under my care. During this long and painful illness he never left his room, scarcely arising from his bed, on account of heart complications which prominently manifested themselves in the early part of the disease, and which went on to a fatal termination on March 1st, 1884. This was his second attack of rheumatism, his first attack occurring some three or four years prior to this, and before my professional acquaintance with him.

The articular rheumatism, which was of a veiy painful character, yielded with some degree of promptness to the use of salicylate of soda combined with free doses of the morphia sulphate. Within three or four weeks the extreme pain was under control, and in less than two months the primary disease was almost entirely eradicated. Occasionally, however, during his long sickness he suffered to some extent in some of his larger joints, but this yielded readily to treatment, his entire disease being transmitted to the heart, which organ was my especial care for many weary weeks.

Throughout the entire course of this interesting case I had associated with me in its treatment my friend Dr. John T. King, of this city, whose advice and assistance were of inestimable value, and which I can never repay by feeble words of thanks.

Very soon after the inception of his disease, the heart complications became especially noticeable. Upon examination, valvular insufficiency was first brought to our notice, and gave warning of what was to follow. There never existed any renal complications, with the exception of a marked acidity of the urine, which was easily remedied by the use of bicarbonate of potash. After our discovery of mitral insufficiency, and consequent regurgitation, the hypertrophy soon began, and increased with marked and serious rapidity. For months prior to his death the area of dulness was so extensive that it led us to give it accurate measurements, which were fully verified by post-mortem observations.

The prominent symptoms which marked the case during the last weeks of his illness were, a frequent pulse, greatly increased respiratory action, alarming dyspnœa, with severe pain on the left side upon the least movement. This last symptom, in our opinion, was due to extensive adhesions, which was corroborated by our final examination. For many weeks his pulse was never below 120, frequently rising to 140, while his respirations averaged from 55 to 60 per minute. The temperature was generally nearly normal, never rising more than one or two degrees.

The main remedial agents resorted to were the iodide and bromide of potash, nux vomica and opiates. They always seemed to be beneficial, and brought about a degree of comfort and ease which was satisfactory. Cardiac sedatives were but little used, as we believed that all medicines of that class would bring about a depression, which, in his case, would be really injurious. Of course, palliatives were required, and used to meet various emergencies.

I have thus given the briefest description possible of this case, purposely avoiding all details and minutiæ of its history and treatment, the sole object of the preparation of this paper being to narrate the enormous hypertrophy of the heart, with the abnormal relationship of adjacent organs.

In the autopsy, which was made a few hours after death, I was assisted by Dr. King, and the following description is from our notes taken at the time: Upon removal of the chest walls, examining the heart *in situ* and seeing to what extent it had, by its enlargement, pushed aside the pulmonary organs, it was readily seen why the respirations had been so frequent. The heart had encroached considerably upon the territory of the right lung, while the left lung was thrust tightly against the walls of the chest, and compressed until its thickness was but three-fourths of an inch. Its adhesions along its entire length were perfect, so that we had considerable difficulty in removing it from its position. It was almost completely hepatized, so much so that a section of it placed beside a section of the liver showed but slight appreciable difference as regards its solidity. This condition, of course, rendered it practically useless, placing the respiratory labor almost wholly upon the right lung. This right lung, owing to its displacement, had pushed the liver downwards and inwards, until it occupied the whole of the epigastric region, while the stomach lay entirely in the left hypochondriac, and, instead of its transverse position, was almost vertical with the body.

The heart, after its removal, was emptied and thoroughly cleansed, when it showed the enormous weight of *forty-six ounces*. Its length was nine inches, its width, when lying flat, was six inches, and it measured twenty inches in circumference. The greatest thickness of its walls was one and a quarter inches, while at the apex they were three-fourths of an inch thick. The length of the cavity of the left ventricle was six and a half inches, while the auriculo-ventricular opening would readily admit an adult hand. The mitral valves were shortened, but were fully four times their natural thickness. On the left ventricle there was a cyst two inches in length, the sac being filled with lymph and serum. The other portion of the pericardium was tightly adherent to the cardiac walls. The chordæ tendinæ were three or four times their natural size, and several of them were fractured. There were found three heart-clots, evidently ante-mortem, two of them adherent, they probably having existed for some time, the other being free, with a probability that it had been formed just prior to death.

Now, the question naturally arises, What practical deductions can be drawn from such a case? We can readily see that by some means this young man was kept alive much longer than his pathological condition would warrant us in believing that he could live. The agents which were productive in thus prolonging his life, in my opinion, in addition to proper medication and good nutrition, were *quietude* of mind and *perfect rest* of body. The treatment, as outlined above, was faithfully adhered to. His nourishment consisted of the best of everything that his fancy could desire or that we could suggest; he was never without the most faithful attendants at all hours, both day and night; his mind was kept at perfect ease by the fact that his business was under the care of a competent manager and faithful assistants, and by our advice he maintained almost constantly a recumbent position, thus imposing as small amount of labor as possible upon the diseased organ.

This is the line of management which I think advisable in all such cases of cardiac hypertrophy, and which in this patient, I believe, warded off for weeks, and probably months, the sad but inevitable termination of so interesting and remarkable a a case.

ARTICLE V.—HOT WATER IN HEART FAILURE. By C. R. JOHNSON, M.D., Athens, Texas. Read before the Texas State Medical Association.

September 4th, 1883, I was summoned to attend Mrs. A., about 47 years of age, the messenger urging me to hurry, and stating that " she was crazy." On my arrival I found her raging desperately, trying to fight those about her, who had to hold her on the bed, and at times thrusting her fingers into her mouth, trying to pull out her teeth. I was told that some four hours before she had four or five teeth extracted, the pulling of one of which caused a very sharp, darting pain in her left ear, of which she complained up to the time of the onset of this wild paroxysm. Her pulse was good and normal. Knowing Mrs. A. to be of a very hysterical temperament, and believing that the pain was the exciting cause of the attack, which I thought nervous and reflex, I at once administered, hypodermically, about one-fifth of a grain of the sulphate of morphia. Waiting half an hour, and there being no change, I gave, per os fifteen grains of the chloral hydrate, and in fifteen minutes repeated the chloral, giving ten grains (the chloral was weighed). In about fifteen or twenty minutes after giving the second dose of chloral, my patient became relaxed and quiet. In a few seconds the face became livid, the ears were almost black, and the blood seemed as if settling in the neck in spots. The respiration stopped, and I could detect no pulsation.

In fact, she seemed in articulo mortis. I at once applied aqua ammonia to the nostrils, practised artificial respiration, and attempted to get some brandy down her throat. The power of deglutition was lost, however, and I failed utterly to get any swallowed.

I now remembered having somewhere read an article on the use of boiling hot water in chloroform poisoning and the consequent syncope. The water was fortunately at hand, boiling on the stove, and though I thought my patient dead, I at once dipped into it a towel, and folding it up, scalding my hands, placed it over the heart; in a few seconds I redipped, and again applied the towel. At once, as if by magic, signs of life began to appear, and it was but a few moments till Mrs. A. was breathing naturally and the pulse was regular and normal. She was now perfectly rational and quiet, and with the exception of a slight nausea, which lasted some three or four hours, had no further trouble.

I have since examined Mrs. A.'s heart carefully and could detect no organic trouble.

It is a matter of little moment, whether it was in this case the chloral alone, or the combined action of it and the morphia which produced the heart failure, the fact still remains that it was produced, and that the hot water, by its sudden and powerful revulsive action, again set going the machinery which had stopped. I have been led to report this case because of the increasing and reckless use of this potent but uncertain drug, both by the profession and the laity. And while I am well aware that one or two isolated cases prove but little, yet I know that the water, which, let me impress upon you, must be boiling hot, saved the life of my patient, and that in like cases well deserves at your hands a trial.

Dr. Ernest Labbé, in his critical review of chloral, says that "large doses retard the action of the heart, and afterward arrest it in diastole." Liebreich and a majority of writers admit that it acts on the innervation of the heart, which it abolishes. Dr. Labbé says: "We should never exceed 70 to 90 grains, although 150 have been given with impunity." Yet, while by no means setting myself up as against such authority, I would, as a warning, in addition to the case which I have had the honor to report, call to your minds the untimely death of the late Dr. L. P. Yandell, and the case of the patient which but a few hours before his own death he reported to a friend, in all three of which the dose was far less than that allowed by Dr. Labbé.

Be cautious, then, gentlemen, in your use of chloral, more especially that of American manufacture, which is far too often impure. And in case the trouble meets you which confronted me, do not forget the boiling-hot water, and use it unsparingly, though as certainly it will blister the surface.

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RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

MENTAL SYMPTOMS FROM ORDINARY BRAIN DISEASE.—Dr. Gasquet (*Journal of Mental Science*, April, 1884) has reported four cases, one of multiple cerebral sclerosis, one of cerebral syphilis, one of "multiple thrombosis," one of post-apoplectic insanity, all of which exhibited absurd unsystematized delusions like those of paretic dementia. Probably all four were really cases of paretic dementia, complicated by the conditions mentioned. Certainly, diagnostic details sufficient to show the contrary are not given. The question whether coarse brain disease may not initiate paretic dementia is one which has as yet received but too little attention. The cases which have a favorable prognosis are such as have fortuitously attacked the individual at the period of puberty rather than such as are peculiar to that epoch. The hebephrenia of the Germans is a type of insanity met with only at puberty. Under the term insanity of puberty, Dr. Régis has included acute psychoses, paranoiacs (primary monomaniacs), as well as true cases of hebephrenia. Dr. Ball (*L'Encephale*, No. 11,884) discusses this psychosis in a recent lecture. He says it develops, in the majority of cases, insidiously. The victim experiences a vague melancholia, which does not exclude gaiety.

The patient seems to play with his delirious conceptions, and in the midst of his depression begins to joke and laugh. He has vague ideas of persecution by his neighbors, friends and relations. The prognosis is grave. The affection, in Ball's opinion, is much more frequent than the figures of Scühle would seem to indicate. Ball fails to recognize the fact that imperative conceptions are relatively frequent among hebephreniacs.

TREATMENT OF MELANCHOLIA.—Dr. Tuttle (*Boston Medical and Surgical Journal*, January 24, 1884) reports eight cases of melancholia treated by a combination of the bromides and cannabis indica. Of these one recovered; in two cases marked benefit was obtained; in two the results were doubtful, and in three there were no results. The bromides can scarcely be regarded as indicated in melancholia, and that better results were not obtained from the cannabis indica is due to its association with the bromide. In Dr. Tuttle's opinion both drugs acted chiefly as a sedative. He does not seem to have had more than sedative results from the use of opium (*Journal of Nervous and Mental Disease*), but has obviously not paid any attention to the contra-indications to its use in certain types of melancholia.

PATHOLOGY OF DIPHTHERITIC PARALYSIS (*Lancet*).—In opposition to the purely hypothetical view of Woakes in regard to diphtheritic paralysis, Dr. Percy Kidd regards the seat of the affection as central and spinal, and supports his view by pathological anatomical examinations which agree entirely in their results with analogous cases reported by Vulpian, Abercrombie, and others. The lesions occurred in the anterior horns of the spinal cord, and consisted of a change of form in the motor ganglion cells, and a change of structure in their cell protoplasm. The affected cells were mostly round and without the ordinary processes. The cell protoplasm appeared indistinct, the nucleus was wanting or scarcely visible, or more rarely the contents of the cells were granular and showed a distinct nucleus. Both changes led to atrophy of the cells, so that in certain portions of the microscopical sections the number of motor cells was greatly diminished. The lesion appeared limited to certain circumscribed portions which corresponded to the locality of muscular paralysis during life. The neuroglia did not appear to be involved.

MORAL INSANITY.—Dr. Walter Hay (*Journal of the American Medical Association*) revamps in a new form certain old objections to moral insanity, and makes statements which are demonstrably false. He states that all reported cases of moral insanity can be resolved into delusional insanity or wilful vice, which is not true, and he further states that moral insanity rests on the false basis that all mental action originates in feeling, which is not true, or else, since adherents of moral insanity claim that congenital moral idiots exist, would be a contradiction in terms, under the circumstances. In point of fact, the doctrine of moral insanity appeared so strongly to support the doctrine of innate ideas that Ordronaux denounced it as an attempt to introduce supernaturalism into medicine. Dr. Hay also states what every alienist clinician will pronounce to be erroneous that all delusions originate in hallucinations. He also states that insane delusion is the criterion of insanity. It is (*Journal of Nervous and Mental Disease*) not surprising that, holding such views, Dr. Hay should deprecate the application of the clinical method to psychiatry. Metaphysical training has its advantages, but if alone applied to attempt the *a priori* solution of psychiatrical problems is an absurdity.

Hydrophobia (*Brit. Med. Jour.*).—Dr. Broadbent reported the three following cases in the London Clinical Association: 1. A boy twelve years old was admitted to hospital for convulsions which had already continued two days. These began with a loud, deep inspiration, followed immediatey by a stiffening of the body, rapid rotatory movements of the head, and loud sounds in the larynx. This lasted about three minutes, then the boy would sigh and complain of headache. Such attacks were brought on by the attempt to drink water, by the sight or sound of falling or running water, by the touch of cold objects or pressure over the heart. In the intervals the boy was perfectly conscious and his mind clear. His countenance was pale and anxious, temperature normal, pulse 108 and weak, respiration sighing. He said that he had once been bitten by a strange dog, and the scar found on his hand had a peculiar chancre-like induration. Amyl nitrite was first given, but without result, and the treatment then consisted of enemas of chloral hydrate 1 sc.; brandy, ʒ viij.; beef tea, ℥ i. These were given every three hours. He was admitted on February 25th, and by the 28th was so much better that the chloral was stopped—but the attacks then began again and the chloral had to be continued for some time. He left the hospital April 2d, and even up to that time the tones of the chapel organ had a peculiar effect on him, throwing him into great excitement. Since there was nothing in the case or in the history of the boy pointing to a simulation of hystero-epileptic attacks, the author considers the case one of true hydrophobia, ending in cure. 2. A girl thirteen years old, always previously healthy, was bitten by a strange cat. One month later she was taken with nausea, fever, and a feeling of weakness in the arms, and by the next day she was so unmanageable and excited that she had to be brought to the hospital. Then she became delirious. She could swallow water only with the greatest effort, and the attempt caused spasms of the pharynx and œsophagus. In spite of the exhibition of chloral and bromide of potash, she grew steadily worse. Death from exhaustion followed about seventy-two hours after her admission, preceded by wild delirium, spitting of frothy mucus, and total inability to swallow. The autopsy showed congestion of the brain and the upper portion of the cord, particularly the floor of the fourth ventricle. In the cortical portion of the brain the vessels were dilated, and there were minute extravasations. 3. A boy, thirteen years old, had been bitten by a pup three months old. The wound was cauterized within five minutes, and the cauterization repeated twice afterward. The dog was killed one week later. After five months, during which the boy had read and heard much of cases of madness, he began to have difficulty in swallowing, the attempt causing spasm, and at the same time a rich flow of saliva and froth from the mouth. On admission his restlessness was remarkable. He frequently sprang up saying he could not breathe, and was afraid to have any liquids near him. His face was red and distorted. His respiration was rapid (36), irregular, and sighing. He constantly cried and complained of pain in epigastrium. In the night he became more restless in spite of chloral 1 sc. by enema. He pounded his head on the wall, grasped his neck, and cried that he was suffocating. The respiration was labored, pulse very small, and from time to time there were spasms of neck and arms. In spite of a second enema of chloral the patient got so much worse that he had to be put in a strait-jacket, and it was only after a hypodermic of chloral (1 sc.) that he, toward morning, got about three hours' sleep. In the morning he was quiet, peevish, but free from pain. Pulse 130, small and weak; temperature 41.6° C. The urine, by catheter, had specific gravity of 1.030 and was full of urates, but contained neither albumen nor sugar. Although there were no more severe convulsions, the fever continued, and in forty-three hours after admission the boy died of exhaustion. At the autopsy, held three hours after, there was very great rigor mortis, marked congestion of the meninges and cortical portion of the brain. The membrane over the pons and bulbus was opaque, milky, and hyperæmic. There was no increase of fluid in the ventricles. The author does not consider this a case of true hydrophobia. Such apparent cases of hydrophobia give rise to the suspicion that the nerve centres of higher grade and higher functions are able to so control those of lower grade as to cause reflex convulsions of the nature of hydrophobia.

SYPHILITIC DEMENTIA.—Dr. C. K. Mills (*Medical and Surgical Reporter*) cites the following case: The patient, a twenty-five-year-old negro, displayed no evidence of paralysis. He had no speech trouble, spoke but little, and could be made to understand with difficulty. A clear history of specific infection was obtained. Under the use of potassium iodide the patient cleared up mentally. The treatment was discontinued, and soon after the patient was taken with an apoplectiform attack; he was unconscious, semi-comatose and general spasm involving both sides, but most marked on one. Under venesection he rallied rapidly and is now well, but displays a little " thickness of speech."

TURPENTINE IN SYPHILIS AND BEDSORES.—Dr. B. Nicholson (*Medical Times and Gazette, September* 1, 1883) recommends turpentine very highly in syphilitic ulcers, giving a drachm twice daily in an emulsion made with liq. potass, and two ounces of water. He has had two cases of perfect relief. It fails to relieve orchitis (suppurative and non-suppurating). In the phagædenic sores following fever he has also found it useful, in a boy of ten who had passed through an attack of continued fever, when during a tedious convalescence two sores appeared, one over the right trochanter and the other over the left thigh. They soon became phagædenic and were treated locally by various applications without much effect. Twenty minims of turpentine were given twice daily, with the effect of gradually producing a more healthy appearance in the sores. The treatment was stopped for a time by another practitioner, during the absence of Dr. Nicholson, but renewed at his return, and the patient eventually got well.

Low Temperature in the Insane.—The fact that temperature not infrequently falls far below 98.5° F. in the insane, is so little known to the profession that a résumé of the observations on this subject is likely to be of interest. Dr. Howard (*Philosophy of Crime, Insanity and Responsibility*) says that in his opinion the temperature of the chronic insane is always below par; this has not yet been established. That in certain cases it is cannot be denied, and this is undeniably the case with epileptics and paretic dements. Among certain insane and certain neurotic subjects temperature may fall very low. Lowenhardt (*Allgemeine Zeitschrift für Psychiatrie*, 1868) reports two cases of insanity in which the temperature was at various times 87.5° F., 89.6° F. and 90.5° F.; these were cases of maniacal excitement. Mendenhall (*Medical Record, June* 4, 1881) cites a case of dementia in which the temperature was 90.5° F. Zenker has (*Allgemeine Zeitschrift für Psychiatrie*, 1875) studied nine cases of insanity where the bodily heat was found to sink easily; it fell in three cases as low as 90.6° F., and in one instance as low as 87.06° F. Bechterew (*Archiv. fur Psychiatrie*, Band XIII.) has reported two cases of paretic dementia in which the temperature was 93.2° F. and 86.9° F., respectively; one senile lunatic in whom the temperature was 87.8° F. Ulrich (*St. Petersburg Med. Woch.*, 1879) has reported a case of paretic dementia in which the temperature was 91.3° F., and one melancholiac, whose temperature was 83.4° F. Tilling (*St. Petersburger Medicin. Wochenschrift*, 1876) has had under observation a primary monomaniac, with a temperature of 89.6° F.; a melancholiac, with a temperature of 82.4° F., and two paretic dements with a temperature of 83.3° F. and 81.5° F. respectively. Ireland (*Journal of Mental Science, April*, 1884) has had under observation an idiot, with a temperature of 82° F., and like cases reported by Hebold (*Archiv. fur Psychiatrie*, Band XIII.). Phenomena of this kind, from what is now known of the action of the nervous system on temperature, are nothing more than might be expected. It can, therefore, be admitted, that a patient having a temperature below 96° not in collapse may be suffering from some neurosis, presumably of a psychical kind.

Insanity in Relation to Crime.—Dr. Bucknill (*British Medical Journal*, March 15, 1884) proposes the following as a legal test of responsibility: "No act is a crime if the person who does it is at the time incapable of not doing it by reason of idiocy or of disease affecting his mind." In no respect is this an advance on the charge of Judge Upton, of Illinois, to the effect that if insanity interfered with the free determination of the will the prisoner must be acquitted.

Asclepias as a Diuretic.—Dr. G. H. Harman (*Therapeutic Gazette*) says that the indigenous plant is commonly known as wild or white Indian hemp, and botanically as asclepias incarnata. The root is the part used, which yields all its virtues, at least, as a diuretic, to water. Its value as a diuretic became known to a gentleman of this vicinity, who kept it a secret for some time and sold it as a remedy for dropsy, calling it dropsy root. Dr. Harman discovered it, and has since frequently used it with very gratifying results. It is used here in the form of an infusion of indefinite strength, a bunch of roots as thick as the thumb being put into a pint or more of water, and made into a tea, of which one or two ounces are taken every few hours till the amount of diuresis desired is produced. Asclepias incarnata is certainly a reliable diuretic, and well worthy the confidence of the profession. Dr. Harman has found nothing equal to it. It is much better than digitalis, squills, spir. nit. æth., singly or combined. It agrees perfectly with the stomach, and has no poisonous effect, as is clearly shown by the freedom with which it has been taken.

ORIGINAL TRANSLATIONS.

INFLUENCE OF GENERAL DISEASES UPON THE APPARATUS OF VISION: HÆMORRHAGIC RETINITIS.

Lecture delivered by Prof. PANAS, and reported by Dr. LAPERSONNE. Translated from the *Union Médicale* of March 22, 1884, by H. McS. GAMBLE, M.D., Moorefield, W. Va.

GENTLEMEN: Among the patients who present themselves every day at our consultations, or who are domiciled in the hospital under our care, you may have observed that a large number were attacked with ocular lesions, which were evident manifestations of a general condition of dyscrasic origin. Not a day passes that we are not called upon to give our opinion as to the prognosis as well as to the diagnosis of the general affection of patients coming from the different departments of the hospital or sent to us by our confrères. This fact should serve once more to demonstrate the necessity of the ophthalmological studies to which I recently directed your attention. From day to day these studies must assume greater importance, and the ophthalmoscopic examination of the patients who enter the hospital will become almost as necessary as auscultation or percussion and the examination of the urine. There is no doubt that, in point of fact, the ophthalmoscope directs the attention of the physician to lesions of which the patient does not even complain. It thus enables us to establish a more rational treatment.

In some of my clinical lectures I intend to speak to you of the influence that the general state of health exercises upon the apparatus of vision. The facts will not be wanting to enable us to profitably study this important question. I hope thus to be useful, not only to those who wish to devote themselves especially to ophthalmological studies, but likewise to all who shall engage in the general practice of medicine.

We will commence to-day with hæmorrhagic retinitis. Some of you were allowed to examine, at our consultation of last Wednesday, a young patient who had been directed to us from the wards of our colleague, M. Gallard. You may have noticed that this boy, although very young (he is hardly twenty years old), was attacked with albuminuric retinitis of long standing, and the manifestations of which might serve as a type for description. Among the characteristic lesions which he presented you certainly saw a hæmorrhagic plaque situated at the lower portion of the right retina, at a short distance from the papilla, and besides numerous punctiform petechiæ disseminated here and there among the large white plaques which cover the greater part of the fundus of the eye. This is one of the most characteristic features of the disease under consideration, and I ask your permission to dwell upon it a moment.

Doubtless, petechiæ of the fundus of the eye, whatever may be their number, do not necessarily imply a hæmorrhagic retinitis, just as subconjunctival ecchymoses do not absolutely indicate the existence of hæmorrhagic conjunctivitis. But if this proposition is not absolutely true in all cases, we may say, without fear of being charged with exaggeration, that very often the existence of retinal hæmorrhage is dependent upon an inflammatory lesion, a retinitis. What are, in fact, the signs of hæmorrhagic retinitis? In the first place the hæmorrhage, then the hyperæmia and the œdema of the papilla, the presence of white plaques of different form, volume and aspect; finally, later on, the presence of spots of pigment.

Let us examine separately the nosological value of these different anatomical elements, and first of all of the hæmorrhages. Their study enables us to account for their peculiar disposition. In fact, it has been histologically demonstrated that they are principally located in the layer of optical fibres; that is to say, in a part nearly approximated to what was formerly called the internal limiting membrane. It is there alone that the vessels are sufficiently numerous and voluminous to produce this kind of hæmorrhage. According to the distance we go from this vascular portion of the retina, the vessels become smaller and more rare, to disappear almost completely in the layer of the cones and rods.

Their superficial seat allows us readily to study all their characteristics. We remark, around a central spot, more or less well-defined radiations, the blood passing through the optic fibres which compose this layer, resembling a flake of fire*; besides, the hæmorrhagic spot seems to cut off one of the retinal vessels. Very different would be the characteristics of a hæmorrhage taking place in a deeper-seated part, in the internal lamina of the granular layer, for example; here the spot would be circular, less salient, without peripheric radiations.

The second important sign of hæmorrhagic retinitis is œdema with hyperæmia of the papilla; this is papillary stasis. The optic nerve presents itself then under the form of a reddish-gray spot, hardly distinguished from the neighboring parts, its borders diffused and occupied here and there by more apparent, even brilliant radiations. At its centre, instead of clearly-defined vessels, are seen only varicose, irregular projections, a portion of the course of these vessels being hidden in the nebulosities of the papilla. Finally, by means of the refractive ophthalmoscope, it is possible to measure the projection formed by the papilla upon the rest of the retinal screen.

The white plaques occupy at first the posterior pole of the eye, and especially the region about the macula; they present themselves under the form of white star-shaped or circular spots, with interposition of pigmented spots in old cases. This appearance has been considered as pathognomonic of albuminuric retinitis, but this is true only in a certain number of cases.

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* En flammeche.

Besides, anatomo-pathological study demonstrates that the white spots of hæmorrhagic retinitis belong to two very different kinds of lesions, some precocious, the others slow. The first are due to œdema of the retina, the optic fibres swell up and become varicose; under the microscope they present a granular, opaque appearance, with moniliform nodosities extending sometimes to a considerable distance from the papilla. These lesions closely resemble, we remark in passing, cadaveric maceration of the retina (gangliform alteration of the optic fibres).

The slowly-developing spots (taches tardives) ought to be well differentiated from the recent spots; by them it will be possible to give approximatively the age of the lesion. Whilst the precocious present a grayish coloration, are illy-defined and salient, the tardy spots are of a chatoyant white, nacreous, with clearly-defined borders, and surrounded by pigment; they form no projections, they are on a level, or even a little depressed in their relation to the rest of the retina. It is of the greatest importance to distinguish these two kinds of white spots because of their bearing upon the prognosis and age of the lesion. In the second case, it is a question of a regressive alteration; sometimes it is a veritable sclerosis, sometimes fatty changes.

Desmarres, who had described the plaques of hæmorrhagic retinitis, had confounded them all under the name of fatty plaques. This was a grave mistake, the importance of which you will understand in a prognostic point of view. Suppose a white plaque occupies, for example, the region of the macula; if we have to deal with spots of the first order, we may encourage the hope of a restoration of vision; in the second case, on the contrary, the lesion is incurable.

When there exist pigmentary spots, one may be sure that he has to deal still with a regressive change, with a migration of the pigment. In a large number of cases these black plaques are due to the pigment of the choroid which has invaded the altered retina. More rarely they are nothing else than the melanic transformation of the effused blood; and if it was necessary to make an anatomical diagnosis between these two orders of black spots, the reaction with sulphuric acid would give a positive evidence, since it dissolves the spots of hæmorrhagic origin and has no effect upon the choroid pigment. Finally, gentlemen, the anatomical characters and the ophthalmoscopic appearance give us the means of recognizing a hæmorrhagic retinitis, but they do not enable us to ascertain the cause; we have to seek elsewhere for the elements of this diagnosis.

In the first place, an important idea is furnished us by the seat of the lesions; sometimes, in fact, the hæmorrhages invade both sides, although more pronounced in one eye; sometimes, on the contrary, they occupy only one side, and even a very limited point of the posterior pole. As a general rule, when you find unilateral retinal apoplexies, especially on the left side, when they are limited to the posterior pole, with central scotoma, without notable disorder of the papilla, you may expect to discover a cardio-vascular affection. Examine the heart and the vessels, and you will find perhaps the characteristic lesions of atheroma, perhaps senile alterations.

Dyscrasic manifestations are ordinarily bilateral and disseminated in a more diffuse manner. Perhaps, at the first examination, the petechiæ will be cantoned upon a single eye, but in a short time afterwards its congener will be attacked. It is this that explains to you why the lesions are often more marked upon one eye than upon the other.

In the group of dyscrasic retinitis, those arising from an albuminuria are much the most frequent. It might be said that in a hundred cases of hæmorrhagic retinitis ninety at least proceed from this cause. It must not be expected, however, that any relation whatever will be found between the quantity of albumen discovered in the urine and the gravity of the ocular lesions. It is not, for example, in the cases of acute parenchymatous nephritis, which, upon examination, show a flood of albumen, that you particularly observe the retinal manifestations. It is rather in the cases of chronic, interstitial nephritis. The quantity of albumen is very often insignificant, sometimes even it can only be recognized after several successive examinations. Resting upon these facts, it has even been said that the retinitis called albuminuric did not exist, and that it was simply a question of an affection of vascular origin solely. But the researches of M. Cornil have clearly demonstrated that, in persons with albuminuria, the cardiac lesions can be found only in two-fifths of the cases; hence it is very difficult to attribute the ocular manifestations to lesions which are not constant.

As a relatively frequent cause of albuminuric retinitis we ought to mention pregnancy. It is especially towards the end of gestation that the lesions of the retina are seen to supervene, and very often they accompany eclamptic manifestations. One may meet with the characteristic albuminuric retinitis, with all the clinical signs that we have just described. But you ought to be warned also that the lesions may be limited, sometimes to the hæmorrhage, sometimes to the papillary œdema. All these signs even are sometimes wanting, and one has to deal then with the amblyopia of pregnancy, which certainly arises from a cerebral manifestation of the eclamptic state. In pregnant women, amblyopia, with or without retinal lesions, does not always have the grave prognosis that you see us give in the other cases of albuminuric retinitis; they are curable, at least, in a certain number of cases. It will suffice to cite to you the case, reported by Mackenzie, of a woman who was attacked nine times with retinitis during the course of her pregnancies, and was finally cured.

By the side of this important cause we ought to place scarlatina, which may be considered as a very frequent source of albuminuric retinitis. You ought to be informed of this fact, in order to be able easily to arrive at the cause of the lesions which you may observe. You know that if the scarlatina's eruption is most frequently perfectly visible, there are also cases in which it may pass unnoticed, and even not exist at all. These concealed cases of scarlatina are manifested only by the throat symptoms, later on by a little œdema; and when you shall find yourself in the presence of the retinitis, the patient, and even the physician, are unable to set you upon the track of this important antecedent.

Finally, there is a group composed of cases of albuminuric retinitis dependent upon an intoxication, and especially saturnism. I need not recall to your minds here the intimate relations existing between saturnine intoxication and renal affections; it is not astonishing, therefore, that retinitis should be an indirect result. Our young patient is a striking example of it. As an antecedent, we see that he has had lead colic, and even some more vague phenomena of saturnine encephalopathy.

If we sum up now the symptoms that we find in the different cases, we see that the macular and perimacular constellation is very frequent, and considered even as characteristic by many authors; it is necessary, however, to make some reservations, for this sign may exist in certain affections which we are going presently to pass in review. The pigmentary plaques, especially when they are located towards the equator of the eye, indicate that the disease has entered upon a retrograde period; they may be very useful in a prognostic point of view.

The progress of albuminuric retinitis is insidious; it may be absolutely latent; the patient experiencing no visual trouble, one is astonished, when he is examined with the ophthalmoscope, to find lesions so well marked. It ought also to be made a rule to examine often the eyes of albuminuric subjects. When you have not witnessed the commencement of the retinitis, the disposition of the white plaques and of the pigmentary spots will enable you to give, approximatively, the age of the lesion.

If, most frequently, the considerable lesions of the fundus of the eye are not *en rapport* with the slight troubles experienced by the patient, it also happens that albuminuric subjects are absolutely amblyopic, without any lesions apparent through the ophthalmoscope. These amblyopiæ, moreover infrequent, pertain then to cerebral lesions, uærmic encephalopathy, and not to an alteration of the retina.

I have told you that all the signs of retinitis, which we have just been studying, might be met with in other affections, so multiple divisions have been created, and it is thus that glycosuric retinitis has been described. But a very important objection has been made to this manner of looking at the question; in many subjects of diabetes, the examination of the urine shows, at the same time as the sugar, considerable quantities of albumen; the lesions observed would be then dependent upon the albuminuric retinitis. This reproach might be addressed particularly to the observations of Leber. But some indubitable facts have come to demonstrate that glycosuric retinitis was really a morbid entity. Desmarres, and more recently M. Noyes, have published some very well-observed facts in which, in spite of numerous analyses, no albumen was ever discovered in the urine. It may be admitted then that glycosuric retinitis really exists, but that it is rare.

Have we here any special characteristics, or only some differences which enable us to recognize glycosuric retinitis? It seems that the hæmorrhages predominate; they are not only numerous, but even voluminous, and it is not unusual to find in these cases some clots in the vitreous. But what more especially distinguishes the glycosuric changes is the rapid participation of the optic nerve. Very quickly the papilla becomes atrophied, which is demonstrated by the two grand functional signs, diminution of the sharpness of vision and dischromatopsic disorders.

The fact is, that if apoplectic retinitis is rare in the diabetic subject, it is not the case with optic neuritis. We have to deal with a descending neuritis, the point of departure of which is in the encephalic centres, and which finally terminates in atrophy. If we wished to establish a gradation in the ocular manifestations of diabetes, in relation to their frequency, we should place cataract in the first rank, then optic neuritis, and, a step further on, hæmorrhagic retinitis.

Pushing still further the etiological division of this affection, there have been described, in this same group of dyscrasic alterations, cases of oxaluric, hippuric and benzuric retinitis, and finally polyuric retinitis; it is in azoturic or insipid diabetes that this last lesion has been especially observed, as well as hippuric retinitis, according to M. Bouchardat. But here we find nothing precise, the facts not being sufficiently numerous and convincing. It seems that very often the retinal manifestations of these affections are simply hæmorrhages, without participation of the optic nerve in the inflammatory process. Besides, cardiac troubles are often found which would suffice to explain the presence of these retinal hæmorrhages.

All diseases of the liver, and particularly those which are accompanied by icterus, may give rise to hæmorrhages, and even to retinitis. These facts have been quite recently taken up by Litten (*Wochensch. Deutsche Med.*, No. 12, 182) and by M. Parinaud. But Müller had long since established the fact that the presence of biliary fistulæ in the dog induced at a certain moment the formation of hæmorrhages and of retinal lesions. This took place when the constant loss of the bile had brought the animal under experiment to a pretty advanced state of debility; in short, when the dog had become cachectic.

It is evident that it is only by exclusion that we can succeed in establishing the diagnosis in these exceptional cases. This is still more true of the retinitis which Biermer described in progressive pernicious anæmia, which, however, should have an almost pathognomonic sign; that is, abundant hæmorrhages of the retina and of the vitreous body.

But all these cases being relatively rare, I hasten to indicate them to you rapidly, in order to say a few words, in closing upon leucæmic retinitis. Studied first by Liebreich, this affection is met with in about one-third or one-fourth of the cases of leucocythemia, and only in the splenic form. It is characterized by quite distinct ophthalmoscopic signs. The papilla is nebulous, but forms no protrusion; the œdema is less pronounced than in the cases which we have considered at the beginning. The fundus of the eye assumes a uniform color, chamois yellow, and very distinct from the ordinary roseate coloration. Becker, who has described this peculiarity, remarks that this symptom would be better appreciated under a feeble illumination, with the plane mirror.

As to the hæmorrhages, they present a more rounded appearance, of a yellowish color at their centre, and bordered with red. All these retinal petechiæ are intermingled in both orders of plaques; some of a chatoyant white and salient are located around the macula, but rather at the periphery towards the *ora serrata;* others are retrograde fatty plaques.

There is no necessity that I should insist upon this aspect so different from that observed in albuminuric retinitis. The discovery of these lesions ought to induce you to examine the viscera, and especially the spleen, the ganglionary regions and finally the blood; you will thus be able to satisfy yourselves that the subject is leucocythemic.

Autopsies have revealed some curious and interesting facts in these cases of leucæmic retinitis. If the hæmorrhages have a nearly circular form, it is because they are seated in the deep layer of the retina, and that the blood in this locality cannot diffuse itself and produce the stellate aspect of which we spoke a while ago. As to the white spots which are especially seated about the *ora serrata*, the labors of Leber, and, above all, the histological examinations of Mr. Poncet, have demonstrated that these lesions are due to infarctus of white globules. Upon a vessel, clots of a white color are seen to form at intervals, due to the escape of the white globules by diapedesis, and to their accumulation in the lymphatic sheaths of Robin. It is these infarcti which constitute at length one of the forms of the spots at the fundus of the eye. Besides, these same lesions have been met with in pernicious anæmia, but they occupy only the finest capillaries. As to the fatty plaques, they sometimes present a notable projection into the vitreous body, under the form of miliary granules, which might lead to the belief in the presence of certain lymphoid tumors (Perrin).

In spite of these characteristic lesions, the diagnosis is not always possible; for, in the leucæmic patient, true albuminuric retinitis may also be observed. This occurs when, in the course of the dyscrasic process, the kidneys have in their turn undergone changes.

Thus, gentlemen, you see that, after having traversed the whole circle of the dyscrasic alterations of the retina, we find ourselves brought back to albuminuric retinitis. From its importance and its frequency, it deserves then to engage your attention, and I admonish you not to fail to study it very thoroughly upon the numerous occasions in our service that you will find to observe it.

ORIGINAL ABSTRACTS.

Nephritis After Varicella.—Henoch (*Berliner Klin. Woch.*) reports four cases of varicella, in which nephritic symptoms supervened. The first case was a ten-year-old boy, in whom the nephritis appeared six days after the eruption of varicella, and continued for twenty days. The second case was a two-year-old girl; varicella appeared with moderate fever, and three days after œdema of the eyelids and dorsum of the feet. Urine albuminous, with a few tube casts and epithelium. Treatment with sweat baths, decoction of bark with pot. acet. Œdema and albuminuria diminished. Within three weeks there appeared, suddenly, severe vomiting, collapse, cyanosis, in the evening death. Autopsy—Moderate hypertrophy and dilatation of the left ventricle, valves normal. Pulmonary œdema, fresh parenchymatous nephritis, and slight fatty degeneration of the liver. The third case was that of a five-year-old girl. Within a week after the appearance of a free eruption of varicella with fever there was œdema of the face and feet and albuminuria. Treatment by sweat baths. In a month, though there were still some traces of albuminuria, the œdema had entirely disappeared. The fourth case, a four-year-old girl, had marked fever followed by a free eruption of varicella. In a week there appeared marked pallor of the skin and facial œdema. Headache and lumbar pains, slight fever. Urine markedly albuminous. Treatment, purgatives, Biliner water and sweat bath. For three weeks her face was markedly œdematous, urine contains albumen, tube casts, epithelium and blood corpuscles. Henoch recommends that the urine be examined in all cases of varicella, within eight days from its onset. Any specific fever may cause albuminuria, a fact that is often forgotten.

MENSTRUAL EYE AFFECTIONS.—Dr. Dor (*Progrès Médical*, Feb., 1884) reports two cases of eye affections due to uterine affections. The first case was that of an amenorrhœic young girl, in whom a supplementary hæmorrhage of the vitreous humor occurred. The second case was one of double hysterical amaurosis. Both recovered. Nicald had observed in certain women thyroid gland enlargement, with accompanying ocular phenomena at the menstrual epoch. Coursserant has observed supplementary hæmorrhage of the vitreous body consequent on arrest of menstruation, the eye resuming its normal condition during the interregnum.

MELANCHOLIA FROM LEAD POISONING.—Dr. V. Clevenger (*Chicago Medical Journal and Examiner*) reports the following case: John H., aged 51, Swede, single, on admission presented the appearance of apathy and mutism observable in ordinary melancholia, with the addition of epileptiform convulsions. A friend visited him, and from him it was learned that the patient had been working in a lead factory for three years. An examination revealed the characteristic blue discoloration of the gums, and other symptoms of lead poisoning. He was given iodide of potassium, tonics, and bathed frequently. He steadily improved, and was discharged fully recovered. Sanitary boards would do well to examine into the conduct of lead factories, and insist upon proper measures being adopted to protect workmen against plumbic toxæmia. Had the cause of this attack been unascertained, the patient would have died insane.

MEDICO-LEGAL RELATIONS OF FOOT GUN-SHOT WOUNDS.—Dr. O. C. Omohundro (*Southern Practitioner*) reports the following case of gun-shot injury of foot. He was called to see B. W., and found he had received a wound from a rifle ball through his right foot. The ball entered one inch from plantar surface almost half-way between heel and inner malleolus, passed diagonally across the foot, ranging up so as to bisect a line drawn from bottom of external malleolus to second phalanx of great toe. Hemorrhage was free. The os calcis and cuboid bones were wounded, the ball probably passing about the articular surface of astragulus with os calcis. This character of wound frequently requires amputation of foot. The patient positively refused amputation under any circumstances, therefore he refused to probe the wound, prefering not further to meddle with it, believing that wounds do best that are probed least. The patient recovered without a bad symptom. The wound healed by first intention, or at least was entirely healed in six or eight days, the foot swelling but little, and suppurating none. He reports this case for statistics of gun-shot wounds healing by first intention, which are extremely rare. Again, the mode of receiving the wound may be of some interest in a medico-legal point of view. Mr. W. met a man in the public road, and entered into conversation with him, having his rifle upon his shoulder. Accidently letting his hand slip, his gun fell behind him, completely reversing ends, the hammer striking a rock in the road. The gun fired, and he was shot from behind in the manner above explained, the barrel being sufficiently far from his foot to leave no powder stains. He attributes the rapid healing of this wound to the short distance from which it was received. The velocity of the ball being so great, that it literally bored a hole through the cancellated structure of the soft bones without splintering or fracturing them, except one spicula of bone, which was removed from the wound of exit. The wound produced was by a common squirrel rifle.

CARBUNCLE AND INSANITY.—Dr. Fusier (*L'Encéphale*, No. 1, 1884) reports two cases in which carbuncle favorably modified two cases of insanity. The first case was one of melancholia agitata, which finally became atonic. During the atonic stage a carbuncle made its appearance between the two shoulders, somewhat nearer the left, which at length assumed enormous proportions. About ten days from the onset of the anthrox it was opened by the hot iron. Hardly (*Journal of Nervous and Mental Disease*) was the dressing completed when the patient suddenly spoke—thanked his physicians for their care—and from this time a course of rapid improvement began. The second case was one of acute mania, during which an enormous carbuncle made its appearance on the dorsal region, followed by increased agitation. The carbuncle was opened by the actual cauter, and this opening was followed by rapid and progressive improvement.

AQUEOUS EXTRACT OF HYDRASTIS.—Hallberg (*Druggist*) comes to the following conclusions concerning the preparation and manufacture of the aqueous fluid extract of hydrastis:

1. The watery extract does not fully represent the action of the drug on account of the berberin being but very slightly soluble in water, while it is acknowledged that berberin is the most valuable and active constituent.
2. Alcohol, alcohol and water, will more thoroughly displace the active principle than water alone.
3. All of the drugs containing berberin, such as columbo, berberis aquifolium, etc., are best treated by dilute alcohol to fully extract the active principle. Such an extract is the best form in which to administer this remedy, but rather in a little more concentrated form; this menstruum fully exhausts the drug, and is free from all precipitation.

SENILE PRURITUS.—Dr. T. J. Hudson (*Lancet*, July 28, 1883) says that the victims of pruritus senilis are often the subjects of a gouty diathesis, the urine being acid, with much uric acid and urates; or it may be an hyperæsthesia with skin atrophy. In either case an inunction nightly (preceded by tepid sponging) of the following will be useful: Choloroform, ʒ ij; solution of subacetate of lead, ʒ ij; powdered camphor, gr. xx; acetate of morphine, gr. xx; white precipitate, gr. vij to x; spermaceti to ℥ ij. No flannel to be worn next to the skin. A nightly draught of bromide of sodium (twenty to sixty grains) with tincture of hops (one drachm) is useful. Alkaline drinks, with nervine tonics, should be given in the day, a change in the tonic being made every few weeks.

SUICIDES OF CHILDREN.—A schoolboy in London committed suicide the other day. He had failed to pass an examination, and for many months before had been overworked and cruelly punished in school. His teacher states that he was not a "bright lad," and it was no doubt the absence of this "brightness" that caused him to lag in the educational race that was set before him. The wise coroner's jury brought in a simple verdict of "suicide." Perhaps a verdict of "killed by a false and vicious system of education" would have been more in consonance with the facts. Children commit suicide from very trivial causes.

FATTY INFILTRATION OF THE LIVER.—Lepine and Eymonnet have recently (*Medical News*, Dec. 1, 1883.) communicated to the Society of Medical Sciences, of Lyons, a new symptom of fatty degeneration of the liver. If urine be freed from its phosphates by a magnesian mixture or baryta, evaporated, and the residue ignited with nitrate of potassium and treated with acidulated water, the solution will contain traces of phosphoric acid. This is derived from the glycerine phosphoric acid contained in normal urine, and is a constituent of lecithin. In several cases of fatty liver, these observers found this secondary phosphoric acid increased five to tenfold, which is in accord with the fact that a considerable quantity of lecithin, as much as three per cent., is found in fatty liver.

SOLUBILITY OF STRYCHNINE.—P. Crespi (*Gaz. Chem. Ital.*) has determined the solubility of strychnine at ordinary temperature, and at 56°, 78°, and 98-5° in various solvents. He finds that 1 part of water at 14.5° dissolves 0.025 part of strychnine; that 1 part absolute alcohol dissolves from 0.302 to 0.325 at 8.25° and 10.75°; 0.975 at 56°, and 1.845 at 78°; that amyl alcohol, one of the best solvents, dissolves 0.525 at 11.75°, and 4.262 at 98.5°; that its solubility in dilute alcohol increases with the proportion of water up to 85° of Gay-Lussac's areometer, and diminishes at greater dilution.

OTHÆMATOMA.—Dr. Bellangés (*L'Encéphale*, No. 1, 1884) has reported a case of hæmatoma which appeared in a case of what seems rather to be a hypochondriacal phase of alcoholic insanity, rather than lypemonia. The patient, without any special traumatic, suddenly suffered from a swelling on the right ear, which for ten days increased, then remained stationary for eight, and had begun to decrease, when the patient died from exhaustion. The hæmatoma was located in the inferior two-thirds of the antihelix and lobe of the helix. Its volume, that of a walnut, was, on autopsy, found to be reduced to one-third this size. The skin over the tumor was wrinkled, and the tumor gave uncertain evidence of fluctuation. A transverse section of the ear revealed a large excavation which contained semi-fluid blood. The excavation was sinuous, and its edges hard. The skin presented nothing special. The perichondrium and the cartilaginous lamina enveloped by it were cut in two by a hæmorrhagic patch. The sanguineous exudation had provoked around it an inflammation, and the chondroplasts, as well as the fibro-elastic tissue, in the midst of which it was plunged, had proliferated, and innumerable minute cartilage cells and patches of extravasated connective tissue were noticeable on the edges of the tumor. The situation of the othæmatoma was not as exceptional as Dr. Bellangés seems to think. Madigan (*Alienist and Neurologist*) concludes: 1. Othæmatoma is of central origin, and that it is ever produced by traumatism alone, has not yet been demonstrated. 2. That it is most frequent in types of insanity in which marked vaso-motor changes occur. 3. That while not denoting a hopeless prognosis, its appearance is of serious significance as regards permanent recovery.

TREATMENT OF BALDNESS.—Vidal (*Gazette Hebdomadaire de Médecine et de Chirurgie*) used blisters at first, but found that ordinary blisters were painful, difficult to apply, and liable to cause cantharidism, unless special precautions were taken to prevent this accident. To obtain a less objectionable blister, he experimented with all the preparations of *Daphne gnidium*, but without success. Subsequently he used a preparation known in Java under the name of "*Andol-andol*," which had been recommended by Van Leent, of Holland. This vesicant tincture is obtained from *Lytta rubifex.* It gave very good results, and was not painful. Having exhausted his supply of *andol-andol,* he tried a vesicant tincture prepared by his former pupil, M. Bidel. Two or three coats of this were applied with a brush, the surface having been previously well cleaned. Complete vesication took place, without any considerable pain, in about two hours and a half. This tincture is prepared from the *meloë* by macerating for twenty-four hours, first in cold acetic acid and afterward in a water bath with four parts, by weight, of ninety-per-cent. alcohol. Thus made, it contains nearly 1.2 per cent. of cantharidin. M. Vidal used the same tincture as a blister in chest affections. Cantharidism never occurred. The desired vesicant action may be produced by the use of one or more coatings of the tincture. M. Féris is of the opinion that this treatment may be applied satisfactorily by means of a vesicant used in Cochin China, obtained from an insect known under the name of *bao-cap.* He has never known it to cause any accident analogous to cantharidism.

Diet in Albuminuria.—Dr. C. W. Purdy (*Chicago Medical Journal and Examiner*) says that he would suggest as the diet for the albuminuric patient as follows: In the main it should consist of farinaceous articles, fish, vegetables and fruits. Meats must be indulged in sparingly; very small quantities of lean meat alone being permissible. Soups should be prohibited; even the conventional beef-tea and beef extracts. Eggs should be excluded from the diet in albuminuria. It has been shown by Lehmann and Stockvis that when the white of an egg is introduced into the circulation, not only does that escape by the kidneys, but a surplus of other albuminoids accompanies it. Senator says the lesson will apply to meat as well as eggs. "Any excess acts in two ways injuriously—by increasing unnecessarily the amount of urea and other waste products in the blood; and also by pouring into the system an overplus of peptones or other albuminous matters, which may simply have to be excreted, and cause irritation in the act." Cheese acts in a similar manner, and should not be used; vegetables may be used freely, and the only ones to be avoided are the leguminous ones, which are too rich in albumen. Fats may be used as freely as the condition of the stomach will permit. Milk is one of the best articles of diet, but should not be too exclusive, as it does not furnish the elements of diet in a suitable proportion. The stomach should not be overloaded, it being an occasional observation that even in healthy persons albumen appears in the urine after a large meal. Small meals, more frequently repeated than usual, is a good rule to follow in such cases. Great discrimination is necessary in the matter of drinks in Bright's disease. Alcohol in large quantities, especially in concentrated form, is generally believed to be injurious. If alcohol be permitted at all, it must be well diluted, and it is preferable to give it with some alkali or neutral water, as Vichy or Apollinaris water, in excess. Alcohol stimulates the interstitial changes in the kidneys if used in quantities, hence the allowance should be very small—not enough to disturb to any extent the general circulation. Claret, sherry, and Marsala are the least objectionable. As to malt liquors, they should, as a rule, be excluded, though it is stated that lighter pale ales or Bavarian beer are nearly free from objectionable qualities.

A Ready Means of Detecting Albumen in the Urine.—M. Hoffman (*Semaine Médicale*) has strips of paper prepared for this purpose, by dipping them into a mixture consisting of a solution of corrosive sublimate 1 to 20 parts of water, and iodide of potassium 1 to 2 parts of water, in equal quantity. When dried, the paper can be caried to the bedside, and dropped into the specimen of urine, and if albumen be present a precipitate will immediately follow. To produce this reaction the urine must be acid, and to make sure of this, a strip of paper which has been soaked in a solution of citric acid is first placed in the urine.—*Jour. of Amer. Med. Association.*

SELECTIONS.

Wounds of the Intestines. Read before the American Surgical Association, April 30, 1884, by S. D. Gross, M.D., LL.D., D.C.L. Oxon., LL.D. Cantab. His last paper.

There are few topics in surgery that have received less attention than the nature and treatment of wounds of the intestines. Even our text-books say very little upon the subject, and that little is seldom founded upon original observation. When we consider the frequency of these lesions, their great gravity—if not almost uniform fatality—and the doubts and misgivings with which they are approached by most practitioners, it will not require any apology on my part for bringing the matter formally before this meeting.

While every other branch of surgery has been enriched by papers and monographs in countless numbers, the literature of wounds of the intestines is exceedingly scanty, and, in many respects, unsatisfactory. The older writers have transmitted to us nothing of value, and even as late as the close of the last and the beginning of the present century not one of our systematic writers had any fixed or settled notions upon the subject. The author who came nearest to this was Benjamin Bell, of Edinburg, whose "System of Surgery," in six octavo volumes, published nearly one hundred years ago, did much to diffuse a taste for surgery, not only in Scotland and England, but on the Continent of Europe and in the United States. It is an interesting fact that the first foundation of a rational treatment of lesions of this kind was laid in this country in 1805, by Dr. Thomas Smith, of St. Croix, in his "Inaugural Dissertation," presented to the Faculty and Trustees of the University of Pennsylvania. His experiments, twelve in number, were performed upon dogs, with a view, mainly, it would seem of ascertaining the best mode of sewing up wounds of this description, without going at all into the question of their mode of repair. Seven years after this, namely, in 1812, appeared the admirable treatise of Benjamin Travers, of London, entitled, "An Inquiry into the Process of Nature in Repairing Injuries of the Intestines." His researches were more especially directed to the elucidation of penetrating wounds, and to the proper management of the bowel in strangulated hernia—topics discussed in a very able and scientific manner. In conducting these researches, the English surgeon availed himself of experiments upon dogs, and of the ample clinical opportunities afforded him at Guy's and St. Thomas's Hospitals. I need hardly add that Mr. Travers' essay was one of the most original and important contributions made to surgical science in the early part of the century. The work was not republished in this country, and did not, I think, excite much attention even on the other side of the Atlantic. For a knowledge of its valuable contents the surgeons of Europe and America were mainly indebted to that storehouse of surgical facts, Prof. Samuel Cooper's "Surgical Dictionary," a work of world-wide celebrity.

Among the French surgeons who in the first third of the present century busied themselves in enlarging our knowledge of the treatment of wounds of the intestines by an appeal to experiments upon the inferior animals, may be mentioned, with special commendation, the names of Jobert, Lembert, Gely, Amussat, and Choisy, on account of the peculiar forms of sutures respectively recommended by them.

Convinced that this department of surgery was susceptible of still further investigation, I commenced a series of experiments in 1841, which was continued, with occasional intermissions, until the end of 1843, when an account of them was published in the "Western Journal of Medicine and Surgery," issued at Louisville, under the editorship of Drake, Yandell and Colescott. A small edition was also issued in separate form, but as the printing office in which it had been stored away was soon after consumed by fire, few copies were saved. Hence the reason why such little notice has been taken of my labors. Indeed, the only account I have ever seen of them is compromised in the "Surgical History of the War."

The object which I had in view in undertaking these researches was, first, to ascertain the process employed by nature in repairing wounds of the intestinal tube; and, secondly—and more particularly—to determine, if possible, the best methods of treatment. The experiments, upwards of seventy in number, were performed exclusively upon dogs, as the most eligible animals that could be selected for the purpose. The wound was generally made in the small bowel, not only because it is more readily accessible than the large, but because, when injured, it is more liable to give rise to extravasation of fecal matter, and also, possibly, to high inflammation.

Gunshot injuries of the bowels, so common during the War of the Rebellion, are more ably and fully discussed in the "Surgical History of the War" than in all other works put together, and what is true of wounds caused by firearms is equally true of other injuries of the intestinal canal. Dr. Otis spared no pains to embody in his chapter on this subject the latest information to be found in the magnificent library accessible to the Surgeon-General of the Army and his intelligent and laborious assistants, to whom the profession is so much indebted for our Army Medical Reports.

Wounds of the intestines may, like similar lesions in other structures be incised, contused, lacerated, or punctured, the latter including those made by gunshot. Incised wounds are occasionally inflicted accidently upon the bowels in hysterectomy and ovariotomy, and in operations performed for the relief of strangulated hernia. All injuries of this kind of the intestinal tube, whether single or multiple, simple or complicated, derive their chief importance from two sources—escape of fecal matter and peritoneal inflammation. The accompanying hæmorrhage is generally a subordinate occurrence.

The manner in which wounds of the intestinal tube are repaired, depends very much upon their character. Simple incised wounds, if properly treated, heal by union by the first intention, as similar wounds involving the skin, muscles, and other structures; that is, the effused plasma soon becomes organized and is transformed into cicatricial tissue. When the suture is carried through the mucous membrane the healing process is more tardy, and, if some of the stitches should give way prematurely, so as to allow the edges of the wound to gap, the union will be effected mainly through the agency of the serous coat. Granulations always form with difficulty, and rarely afford much aid in filling up the breach. In nearly all my experiments upon dogs, I noticed that the wounded bowel at the seat of the injury was speedily glued either to the omentum or to some adjacent coil of intestine, thereby forming, in most cases, an effectual barrier to fecal effusion. Conjecturally, we may assume that a similar occurrence obtains in a human subject. The ligatures, when the ends are cut close, are always discharged into the interior of the tube, the period at which this takes place varying with many circumstances from ten to fourteen days, as the ordinary average, to three or four weeks as the extreme. Lacerated, ragged, contused, punctured, and gunshot wounds heal in the same manner as incised, but the process is more tardy and more liable to fail. When wounds, of whatever kind, are left to themselves, or to the unaided efforts of nature, the subjects of them either perish from their effects, as fecal effusion, peritonitis, hæmorrhage, or septicemia ; or, if they recover, their safety is due to the adhesions which the injured portion of the tube contracts with the surrounding parts.

The diagnosis of wounds of the bowel is a matter of primary consideration, as upon its prompt determination the success of our treatment must mainly hinge. The possibility of this will, of course, mainly depend upon the situation in which the bowel is found at the time of the accident. If it has escaped through the wall of the abdomen, it will generally be easy to find the injured part by the egress of some of its contents, as feces, mucus, or bile, or all these together ; and so also when there is a discharge of some, or all, of these substances through the outer wound, although there be no protrusion of the intestine. The coast in both of these conditions is sufficiently clear, so clear, indeed, that he who runs may read and accurately interpret. But it is altogether different when the abdomen has been pierced by a narrow instrument, as a knife or a dirk, or perforated by a bullet. In such an event the bowel does not protrude, and hence the true nature of the case must be solely a matter of conjecture. All that is positively certain in such event is that there is a wound in the wall of the abdomen. The surgeon, especially if called immediately or soon after the receipt of the injury, must be in doubt whether the weapon has entered the bowel or not. In reflecting upon the subject, he recalls the fact that a bullet, a rapier, a sword, or a ramrod has occasionally passed through the abdomen, and, perhaps, even emerged at the opposite side, without, in the slightest degree, interfering with any of its contents. The records of surgery furnish many such cases.

The two principal signs which must serve to guide in these uncertain cases are tympanites and a discharge of blood by the anus. The occurence of tympanites is unquestionably a symptom of great value. Jobert, who was the first to notice it, regards it as the most reliable of all the phenomena when there is no escape of feces, mucus, bile, or other fluid at the abdominal wound, and in this opinion the results of my personal observation fully coincide. The tympanites supervenes at various periods ; sometimes almost immediately after the wound in the bowel has been received, and is then always of proportionate diagnostic value ; at other times it supervenes very gradually, and in some cases, again, it does not make its appearance under twenty-four, thirty, or thirty-six hours. However this may be, it is always diffused, not circumscribed, and sometimes reaches an enormous height, the belly emitting a hollow, drum-like sound on percussion, and is then always very painful.

Although tympanites is generally present in lesions of this kind, there are cases in which it is entirely absent, as, for example, when the wound in the bowel amounts to a mere puncture, in which the opening is effectually closed by the protrusion of the mucous membrane, thereby preventing all escape of gas into the peritoneal cavity.

A discharge of blood by the anus I regard as a very valuable symptom of the existence of a wound in the bowel. It is especially valuable when it makes its appearance within a short time after the infliction of the external wound, and when it continues, more or less abundantly, for some days afterwards. As the blood is always intermixed with the contents of the bowels, it seldom comes away in a pure state, but is generally of a dark color, and of a grumous consistence.

No useful conclusions can be deduced from the shock and the pain which attend lesions of this character, since both vary greatly in different cases and in different circumstances, some persons suffering very little, others, owing to the peculiarities of their nervous endowments, experience extreme distress.

In regard to probing wounds of this kind, the universal sentiment of the profession is opposed to it, on the ground that, while it can do no good, it would often be productive of great harm by disturbing the relation of parts, and thus endangering fecal effusion. I do not think, however, that this rule should apply to the mural wound. Here a probe, properly used, might at least afford useful information in regard to the direction and extent of the external injury.

In the treatment of wounds of the intestines two leading indications are scrupulously to be kept in view—the prevention of fecal effusion and the occurrence of peritonitis. To secure the first, the only safeguard is efficient suturing of the wound. A case, it is true, occasionally recovers without any precaution of this kind, but this is owing to good luck rather than to good treatment. There was a time when surgeons, even of great distinction, considered the employment of sutures in wounds of the bowel utterly useless, if not absolutely detrimental. John Bell, a specious writer and an eloquent lecturer, who flourished in the early part of the century, and one of whose chief delights it was to walk rough-shod over the teachings of his predecessors and contemporaries, declared that, if there be in all surgery a work of supererogation, it is the sewing up of a wounded gut. He taught that there was no peritoneal cavity, and that, consequently, there could be no fecal effusion in wounds of the bowel. The illustrious Scarpa, of Italy, for a long time the only great surgeon of that country, was equally prejudiced against the use of sutures ; he considered them not only useless, but even dangerous. The practice in those days, and even at a much later period, was, in all lesions of this description, to pass a suture through the wound, and to bring out the ends at the external opening, a practice necessarily and inevitably followed by an artificial anus, and one by no means always, if indeed generally, free from the risk of fecal extravasation. The late Professor Gibson, of Philadelphia, writing in 1838, advocates a similar procedure; and Professor Syme, of Edinburgh, four years later, expressed himself to the same effect. These views may be regarded as a pretty correct expression of the teachings of surgeons in regard to this class of injuries forty-five years ago, notwithstanding the light that had been thrown upon them by Travers, Sir Astley Cooper, Lawrence and others in England, and Jobert, Lambert, Gely, Choisy and others in France.

The question here naturally arises, Should all wounds of the bowel, however small, be sutured? Upon this subject there was certainly till recently, if indeed there is not still, some diversity of opinion. Dionis, Palfin, Heister and Sabatier state that enterrorhaphy is unnecessary when the wound does not exeed the diameter of a goose-quill or a penknife; and views of a similar nature are to be found in other writers, as Sharp, Richerand, Boyer and Jobert. On the other hand, there are surgeons who are opposed to the return of the bowel into the peritoneal cavity, however small the intestinal wound, without the employment of sutures, lest fecal extravasation should ensue. The great Benjamin Bell, of Edinburgh, writing near the close of the last century, holds, in the midst of the darkness that surrounded him, the following emphatic language: "However small a wound," he says, "of the intestine may be, it ought always to be secured with a ligature, for although it is alleged by some that we should rather trust to nature for the cure of a small opening than to insert a ligature, to me it appears that the opinion is by no means well founded, insomuch that I would not leave even the smallest opening that could admit either feces or chyle to pass without stitching it up. Much danger may ensue from omitting it, and the hazard of the patient cannot be increased by the practice being adopted."

This advice of the sagacious Scotchman, so clearly and emphatically enunciated nearly a century ago, is now the universal practice in all cases of wounds of the bowel, however diminutive, based as it is upon the well-ascertained fact that enterrorhaphy, when properly performed, is a harmless operation as compared with the risk of fecal extravasation and the consequent certainty of peritonitis.

It was with a view of testing this very matter, by determining how far even a small wound of the bowel might safely be entrusted to nature for a cure without the aid of sutures that I was induced to undertake the elaborate series of experiments alluded to in the opening part of this paper. These researches afforded abundant proof of the correctness of Mr. Bell's views; for, although I found that the wound, when it did not exceed two lines, or the sixth of an inch, was always closed by the intrusion of the mucous membrane, yet this did not always protect the parts from the effusion of fecal and other matter. Hence I have ever since laid the greatest stress, both as an author and as a public teacher, upon the importance of close suturing in all wounds of the intestines, however small. It is easy to conceive that even a very small wound, although completely occluded by the mucous coat at the moment of the restoration of the bowel, might, by the transit of stercoraceous matter, or by violent peristaltic action, become so unlocked as to admit readily of the escape of fluid or solid substance into the peritoneal cavity. Let it ever be borne in mind that the smallest possible quantity of fecal matter would be sufficient, certainly in many cases, if not in all, to light up fatal inflammation; and let this fact serve as the keynote to our practice in all cases of wounds of this description.

Judging from the results of my own observations, I have long been of the opinion that there are only two sutures that should ever be employed in sewing up a wounded bowel. These are the continued and interrupted, with the modifications of the latter by Lembert and Gely. As to Jobert's method, which consists in invaginating the ends of the bowel, when completely cut across, so as to place the two serous surfaces in immediate contact to facilitate their prompt union, the operation is not only extremely difficult, but very liable, even if successful, to be followed by more or less contraction of the tube at the seat of the injury, thereby interfering more or less seriously with the transmission of its contents.

The interrupted suture is, as a rule, preferable to the continued in all wounds of the bowel, whatever their extent or direction, whether they embrace the entire calibre of the tube or only a limited portion, and whether they are circular, oblique or longitudinal. The operation executed with a long, slender sewing-needle armed with a thin but strong, well-waxed silk thread, is comparatively simple, affords ample security against fecal effusion, and is never followed by injurious contraction of the tube. The sutures should be placed not more than one line and a half, or the eighth of an inch, apart, and the ends, tied in a double knot, should be cut off close, so that, in time, the sutures may find their way into the bowel and be discharged along with its contents. I deem it very important that each suture should be fully one line from the edge of the wound, and that the needle should be passed deeply through the wall of the bowel instead of embracing its entire thickness, an arrangement which would almost inevitably be followed by more or less puckering, and by the consequent retardation of the cure. The operation of uniting the bowel where the division is complete, will be greatly facilitated if the first suture be inserted at the mesentery and the second immediately opposite.

The best, certainly the safest, ligature for suturing a wounded intestine is ordinary sewing silk, well waxed, and inserted with a long, sharp sewing-needle. The carbolized catgut ligature is liable to give way prematurely, and should, therefore, be avoided.

In the modification of this suture by Lembert, the object is to invert the edges of the wound so as to bring the two serous surfaces in immediate and firm contact, to establish, as it were, union by the first intention. Great advantage has been claimed for this form of suture, but this is not so apparent when it is remembered that, unless great care be taken in introducing it, it is liable to be followed by more or less contraction of the tube. In making this suture, the needle makes two dips on each side of the wound instead of one, as in the ordinary procedure.

" Gely's suture, which is merely a modification of that of Lembert's, is made with two needles inserted near the angle of the wound, about one line from its edge; they are then carried along the interior of the bowel, parallel with the wound, for the sixth of an inch, when they are brought out precisely at the same level, so as to appear again on the peritoneal surface. The threads are then crossed, the right needle being passed through the puncture made by the left, and conversely, when the ends are firmly tied and cut off close, as in the ordinary operation. The number of sutures varies, of course, according to the extent of the cut. In this way the edges of the wound are thoroughly inverted, and consequently all danger of fecal effusion is prevented; the coaptation, in fact, is so accurate as to conceal the ligatures."*

The treatment of wounds of the bowel by the continued suture has afforded good results in my experiments upon dogs. The chief objection to it is that it leaves the edges of the wound in an uneven, puckered condition, which interferes perhaps somewhat with rapid union. This, however, may be prevented in a great degree, if not wholly, by the employment of a double thread after the fashion of the glover, although I do not consider this at all essential to success. Of the seventeen experiments performed with a single ligature, not one terminated fatally. The wounds in two of the cases were transverse, oblique in three, and longitudinal in twelve. The wound in one of the latter was six inches in length. The dog, a large, old one, was killed on the twentieth day, when every trace of suture had disappeared, with the full restoration of the calibre of the tube. I must not omit to state that in all these experiments the suture was passed through the fibrous tunic of the bowel, or, in other words, outside the mucous membrane. We have here then also a very valuable suture for sewing up wounds of the intestines, especially well adapted to the treatment of longitudinal and oblique wounds; not so well, I think, to the treatment of transverse ones as the interrupted.

The suturing of the wound having been completed, and any foreign substance that may be present removed, the bowel is restored to its natural situation, followed by the omentum, in the event of its prolapse. It is hardly necessary to say that the protruded structures should be treated in the most gentle manner; any wiping that may be required should be performed with the softest cloth, and all firmly-adherent matter should be picked off with the forceps. Generally speaking, the best way of cleaning the parts is to make free use of the syringe, charged with warm water. The operation may be completed with a one to one-thousand solution of corrosive sublimate. The return of the bowel will be materially facilitated by the use of a little olive oil. If any serious obstacle offer, it must be surmounted with the probe-pointed bistoury, or by puncture of the the tube, if it depend upon the presence of gas. The wound in the wall of the abdomen should be closed in the same manner as in ovariotomy, the sutures being carried through the peritonæum so as to protect the parts effectually against hernial protrusion, a thing never to be lost sight of after such lesions.

The question arises here, what should be the conduct of the surgeon when the bowel is wounded, but not prolapsed, owing to the small size of the mural opening? I do not think that I can answer this question better to-day than I did forty years ago, when we knew comparatively little of abdominal surgery, and when the most visionary enthusiast could not have dreamed of half the triumphs that have since awaited it. The case in question is a supposititious one, and is thus stated: "A man, after having indulged in a hearty repast, receives a penetrating wound in the abdomen from the thrust of a dirk or knife; the bowel is pierced, or, it may be, nearly divided, and there is a copious discharge of fecal matter, both externally and into the peritoneal cavity, as is evinced, in the latter event, by the excruciating pain, the gastric oppression, and the collapsed condition of the sufferer. Here the most prompt and decisive measures must be resorted to, or the person will perish from peritoneal inflammation, with as much certainty as if his skull had been fractured and a portion of his brain had been let out. It will not do for the surgeon to fold his arms, and look upon the scene as an idle and disinterested spectator. Far otherwise; he has a duty to perform, and that duty consists in dilating the external wound, if it be not already sufficiently large, in hooking up the injured bowel, and in closing the solution of continuity with the requisite number of stitches, at the same time that the effused matter is carefully removed with tepid water and a soft sponge. All wiping must, of course, be carefully avoided, as this would add much to the risk of peritonitis.

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* Gross's "Surgery," vol. ii., p. 613. Sixth edition.

"By the above precedure, which, under the circumstances pointed out, I should not hesitate to pursue. the patient is not placed in a worse condition than a female who has undergone the Cæsarean section, or a person whose abdomen has been ripped up in the first instance; recovery from both of which is not, as is well known, of unfrequent occurrence." *

It is a rule with all educated surgeons to do the work which they are called upon to perform in as complete and thorough a manner as possible, and nowhere is this precept of greater importance than in the treatment of wounds of the intestines. A case recently reported by Prof. O. K. Roberts, of Louisville, Ky., will aid me in illustrating my meaning. A man was cut in the abdomen with a pocket-knife; the wound was three inches long; the bowel protruded, and was pierced at two points, one opening being of the size of a common lead-pencil, the other of a pea. The knife in its passage had stripped off the serous membrane over a sprace of one inch by one-quarter. There were two slits in the mesentery, each one inch in length, and the patient had lost much blood. The mural wound was closed by sutures which embraced only the skin and superficial fascia. None of the bleeding vessels had been secured, and active bleeding was still going on from three points in one of the wounds in the mesentery, the other being occupied by a clot. It was in this condition that the man was found by Dr. Roberts, shortly after his wounds had been dressed by another surgeon. Satisfied at a glance that the case had not been properly managed, Dr. Roberts reopened the mural wound, secured the bleeding vessels with carbolized catgut ligatures, stitched the openings in the gut more thoroughly, washed out the peritoneal cavity with hot carbolized water, and closed the abdominal wound with deep sutures, completing the dressing by inserting a drainage-tube in the lower angle of the wound. Under this treatment with proper subsequent care the man made a rapid recovery. Had the dressing originally applied been allowed to remain, death would have been inevitable; either from hæmorrhage, peritonitis, or peritonitis and septicemia.† The case affords a happy exemplification

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* "An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines," p. 341, Louisville, 1843.

† American Practitioner, January, 1884.

of hasty, careless, slovenly surgery. on the one hand, and of thoughtful, wide-awake, scientific surgery on the other.

The therapeutics after all such lesions is sufficiently simple. The great point is to prevent peritonitis, or to combat it if it takes place. The posture should be such as to relax thoroughly the abdominal muscles. The bowels should be locked up with opium to prevent peristaltic action, and nothing but iced water or pounded ice, aided, if there be much gastric distress, by a small allowance of dry champagne, should be permitted during the first three or four days. Oppression from gas should be relieved with injections of turpentine and asafetida. Peritonitis should be met with leeching, followed by vesication with cantharidal collodion, and full doses of opium; venesection will be proper when the patient is young and robust. A laxative of castor oil, or of sulphate of magnesium, may be given at the end of five or six days, if there be marked suffering from tympanites. The urine should be drawn off during the first few days with the catheter.

I have, thus far, said nothing of gunshot wounds of the intestines. Such wounds are generally of a very serious nature, and are, therefore, liable to be followed by the worst consequences. In the first place, they are nearly always concealed wounds, from the fact that there is no prolapse of the bowel; secondly, such wounds are commonly multiple, as in one of my own cases, in which there were as many as eight perforations—two in the ileum, two in the jejunum, two in the duodenum, and two in the arch of the colon; thirdly, there is always more or less copious effusion of fecal matter; fourthly, great shock, to say nothing of hæmorrhage, nearly always attends; and, lastly, most patients who survive the more immediate effects of such injuries are almost certain to succumb to peritonitis. The only rational treatment in such cases is to expose at once, or with the least possible delay, the peritoneal cavity, to stitch up, or excise the wounded bowel, and, lastly. to clear away all extraneous matter. Excision of the tube is imperatively demanded when the wound is very large, severely contused or very ragged. Nothing short of this would answer under such desperate circumstances, and even then no sensible surgeon would venture to pronounce a favorable prognosis.

It was my purpose, in connection with this paper, to offer some remarks on excision of the intestine in gangrene from strangulation in hernia; but it has already so far exceeded the limit originally assigned to it that I must confine myself to a few passing sentences.

The first operation that was ever performed for such an object occurred in the hands of Ramdohr, a German surgeon, who flourished in the early part of the last century. His patient was a woman, the subject of a strangulated femoral hernia, and, although fully two feet of her small intestines were removed, complete recovery ensued. This remarkable case remained for a long time a solitary illustration of the manner in which a man, inspired by genius and the gift of prevision, may project himself into the future far in advance of his plodding contemporaries. Towards the close of the last century, and the beginning of the present, operations of this kind became more frequent, chiefly through the labors and writings of Sir Benj. Travers and Sir Astley Cooper of London; Duverger, Boyer, and Lavielle, of France; and Schmidt and Diffenbach, of Germany. In this country the first case of the kind occurred in the practice of the late Dr. C. Luzenberg, of New Orleans, in 1846. The case was one of strangulated inguinal hernia, in which that distinguished surgeon, on the basis of the recommendation contained in my monograph on wounds of the intestines, excised six inches of the ileum, and succeeded in curing the patient. Operations of this kind, dating from these humble and uncertain beginnings, now justly rank among the established resources of surgery. In an article published in *The Medical News* for March 15, 1884, Professor S. W. Gross refers to 67 cases of this kind, in the hands of different surgeons, nearly all Europeans, of which 21 made complete recoveries, two escaped death with an artificial anus, and 44, or 65 per cent., perished. This remarkable mortality seems to have been due, not, as one might, *a priori*, have supposed, to peritonitis, but to the unsound condition of the bowel beyond the seat of the gangrene, a fact of great practical value, and one that should not be lost sight of in operations undertaken for this purpose.—*Medical News.*

THOUGHTS ON THE PATHOLOGICAL RELATIONS AND THE ETIOLOGY OF DIPHTHERIA.

Read in the Section of Public Medicine. By EDWARD F. WILLOUGHBY, M.B. Lond., Etc.

I. 1. Recent microzoic pathology has established beyond doubt in some cases, and presumably in others, that infectious and infective diseases, with a few apparent exceptions—if, indeed, they be exceptions—are caused by, dependent on, or constantly associated with, the presence of certain more or less differentiated forms of bacteria.

2. We are justified in considering these as specific—though, as in the case of the ova of man, ox and dog, the specificity of which is clear enough, our visual organs may not be able to distinguish them—by the specific character of their effects in the body, the contagium of each disease producing the same, and not another.

3. Yet there is reason to believe that these specific forms may be evolved—except in the case of some of the most highly differentiated, as small-pox, the conditions necessary to those evolutions do not now exist—from non-specific and inert forms; and that thus some diseases, afterwards and usually propagated by contagion, may at times be evolved from extracorporeal or other bacilli; in other words, may arise *de novo,* though not *de nihilo.*

4. These lower forms of bacilli, non-specific, but capable of developing into higher and specific forms, as well as the necessary conditions for their development, are most likely to be found in and among the processes of putrefaction of organic matter—processes themselves invariably set up by like organisms; and such diseases are thus, as Murchison maintained against Jenner regarding enteric fever, *pythogenic.*

5. While history and medical observation warrant us in denying such evolution, under existing social and sanitary conditions, in regard to small-pox and measles, and leave the case of typhus and scarlatina open to differences of

opinion, there is an overwhelming mass of evidence in favor of its frequent occurrence in enteric fever, and still more of diphtheria.

6. Bacilli of a more or less infective character are present in most forms of pharyngitis and tonsillitis, whether induced by exposure to any absorption of septic poisons, or by the usual causes of catarrh.

II. *Diphtheria* may be defined as an infectious and specific, though perhaps not highly differentiated disease, marked by some or all of the following phenomena: Locally, there is an inflammation of all or any part of the fauces, tonsils, pharynx, nasal passages and larynx, characterised by the exudation of lymph rich in fibrine and proliferated epithelium cells and leucocytes, leading to submucous thickening and the deposition on the surface of a so-called false membrane of any degree of thickness and consistence. Generally, there are blood-changes or derangements of innervation and nutrition, manifested not only by pyrexia and albuminuria as in scarlatina, but by certain characteristic phenomena, viz., paralysis of the heart, of deglutition, and perhaps of voluntary muscles, of the nerves of special sense, and derangements of common sensation; these phenomena differentiating it from non-specific pharyngitis.

The local dangers are: (1) the liability of this exudation to putrefaction and the absorption of the putrid matter; (2) the obstruction of the glottis by the exudation; (3) the paralysis of the glottis, due to the inflamed state of its muscles, causing its margins to collapse during inspiration, while expiration is unaffected.

That this, and not spasm, is the cause of the suffocation is evident, because (1) muscles actually inflamed are not subject to spasm, but, rather, to loss of contractile power; (2) so long as the glottis is not obstructed by membrane, expiration is not impeded; (3) identically similar respiration follows division of the laryngeal nerves, *i. e.*, artificially produced paralysis, and (4) is also heard when artificial respiration is performed on the dead body, in which the glottis is passive.

III. *Diphtheria and Croup.*—Croup is an equivocal expression, being popularly applied to any cough marked by a peculiar brassy sound, indicating its origin in any abnormal condition of the larynx. It may thus mean (1) simple or catarrhal laryngitis; (2) laryngismus or true spasm of the laryngeal muscle, arresting, during its continuance, both inspiration and expiration; or (3) laryngeal diphtheria. The last named is by some physicians restricted to cases of diphtheria, originating in the larynx itself; but identical symptoms and consequences follow the extension of the diphtheritic process from the pharynx to the larynx, and such a distinction is unscientific and without any practical value.

"Croup," therefore, if not simply catarrh, or a reflex spasm of the glottis, is, and should be called, diphtheria.

IV. *Diphtheria and Tonsillitis.*—In catarrhal tonsillitis, the increased and altered secretion of the tonsils thickened by cell-proliferation distends and protrudes from the crypts in the form of whitish points, which may ultimately coalesce, undergo putrefaction, lead by absorption to inflammation, and even suppuration of the cervical and submaxillary glands, or, assuming a fibrinous character, simulate diphtheria; but in such cases albuminuria, and the nervous derangements characteristic of diphtheria, are absent.

More often the inflammatory process is localised, and pseudo-abscesses in the tonsils, and enlargement of the neighboring glands, are the only consequences.

V. Though the great majority of cases of tonsillitis and pharyngitis are purely catarrhal, set up by exposure to cold and wet, to irritants, etc., experience places it beyond doubt that they may be produced by the absorption of septic agents, as sewer-gas, etc. Between these cases and well-marked diphtheria it is impossible to draw any satisfactory line of demarcation, and we are justified, by analogy as well as by clinical observation, in believing all such cases of septic tonsillitis and pharyngitis to be essentially the same as diphtheria.

By analogy, even in those fevers whose lesions are usually visible and unmistakable, we meet with obscure and unrecognized cases, cases whose true nature is only revealed by their remoter consequences, as albuminuria in scarlatina, or even by their merely giving rise by infection to other cases which admit of no such doubt. We have small-pox with one pustule, and why not with none? Scarlatina without visible eruption, enteric fever marked only by slight intestinal derangement and malaise or weakness, and so on.

Clinically, I have seen three sisters with what seemed to be a common foul-smelling sore throat, but in one of whom fatal laryngeal symptoms rapidly developed, she being a feeble child of five, and they healthy girls of fourteen and sixteen years. In none was there any visible exudation on fauces or pharynx.

I therefore firmly believe that diphtheria is of far more frequent occurrence than is commonly supposed, and that all, or nearly all, cases of sore throat evidently connected with unsanitary surroundings, and effecting, simultaneously or consecutively, several members of a family, are to be reckoned as diphtheria.

VI. *Etiology.*—The connection between sewer-gas and fæcal or other putrid accumulation in or around dwellings and diphtheria has long been recognized by medical men, especially those resident in towns. But, of late, several rural practitioners and medical officers of health have advanced a theory of meteorological causation. Dr. C. Kelly, medical officer of health for West Sussex, insists on the fact that, while diphtheria is scarcely known in Worthing, it is very prevalent in the rural districts; and he attributes it to exposure to cold and wet in going to and from distant village schools. In the reports of the German Imperial Board of Health, I observe that it is at times fearfully prevalent in the rural districts of Saxony; and, in those of the Board of Health of Michigan, I find that among the sparsely-peopled settlements in the backwoods, amid foul and stagnant pools, etc., its ravages surpass all example.

I do not deny the facts adduced by Drs. Kelly, Slade, King, etc., but I do their inferences; for where does one meet with foul dunghills, pigstyes, etc., in close proximity to houses, saturating the soil with putrescent matter, or with cesspools side by side with wells, more frequently than in such villages and rural homesteads?

Again, it is remarkable that, in Munich, as Dr. Soyka has shown, enteric fever prevails most in those quarters provided with old and pervious sewers, next in those with good sewers, but where the houses are not properly disconnected therefrom, and least in those without any sewers at all; whereas diphtheria is constantly present in the latter, drained only by the open *Stadtbächer*, and with cesspools dug in the porous rock. Thus, diphtheria and enteric fever exist in Munich side by side, but in inverse proportions in the several quarters of the city. In fact, it would appear that surface-accumulations of filth are more likely to generate diphtheria, and pent-up putrid gases to produce enteric fever.—*Brit. Med. Jour.*

The Treatment of Enteric Fever by Cold Bathing.—There are few more remarkable instances of the oscillatory progress of medicine than is to be found in the history of the treatment of fever. In the days of the saints, it seemed a reasonable proceeding to put a man suffering from fever under the pump. A rebound came, and anything in the shape of a chill was deprecated as likely to send the fever in, or rather the rash which was the open expression of it; and now, in modern days, we again not only discuss, but apply, a treatment similar in its forms to that of our ancestors for the moderation certainly, some think possibly the abolition, of fever. Happily, however, in the present we have more numerous means at our command, and those that are so are more delicately adjusted for the wonderful mechanism to be dealt with. Were it not so, the more open measures, such as cold bathing and the methods allied to it, would have but little chance of success; at least, it would be left to the most energetic and robust medical advisers to propose them much in the same way as the practice of bleeding stands now. The patient dislikes the idea of venesection even when it would probably be beneficial to his recovery; and, in the uncertainty of medicine, the medical man does not think it worth his while to insist upon a treatment so repugnant. It is not far otherwise with the bath-treatment of fever. The conditions of hyperpyrexia are more urgent, and the relatives of a patient thus affected more willing by so much to listen to reason; but the public is as yet not sufficiently instructed to like the idea; and, in proportion as this treatment is extended to cases other than the worst cases, so at present there will be difficulties in applying it. For this reason, therefore, the discussion lately concluded at the Medical Society of London is of very considerable value. It will serve to clear the air by making manifest, in some measure, what is the mind of the profession in the matter; for it is clear that to have any chance of success, a method, which, in a most important respect, traverses notions which may be almost said to belong to us as instinct, must be recommended by those who have no doubt of its efficacy. The discussion in question was the treatment of typhoid fever by cold bathing; but, while the scope was thus narrowed in one direction, it was widened in another, because facts which do not admit of dispute for hyperpyrexia allow much room for discussion when applied to the conditions of ordinary fever. Dr. Coupland, in his elaborate and able paper, rightly says that cold bathing is the only measure which has succeeded, and he might have said on several occasions, in saving life threatened by hyperpyrexia, and no one would dispute its efficacy as a last resort in such urgent cases.

But it is the employment of the bath to control the whole course of the fever that he discusses in his paper. The conclusion at which he arrived is one in common with Brandt, Jurgensen, Liebermeister, Cayley and others, that the mean mortality of London from enteric fever treated all round is 15 to 18 per cent.; while the mortality from cases treated by the cold bath would appear to be from 10 to 7 per cent. This is so material a reduction that, if the facts are to be relied upon--and we think they are sufficient for the purpose—it should ensure for this treatment a much more extended sphere of application than it has hitherto obtained. As regards the facts, we think they are worth attention, if only on *a priori* grounds. We are now quite familiar with the demonstrations of experiment which show that all the tissues are structurally damaged by the persistence of pyrexia. As a matter of fact, demonstration is hardly needed, when it has happened to most of us to see the wreck of brain and muscle produced by a prolonged attack of typhoid fever, and the anxious period of slow rebuilding which follows. Nevertheless, it is not without value.

Again, there are illustrations in abundance that pyrexia reacts upon local conditions, and may, therefore, and probably does, intensify any local inflammation which may even have been instrumental in calling it into existence. Unless, therefore, it can be shown that the anti-pyretic treatment by the application of cold increases the mortality by increasing the frequency of hæmorrhage or pulmonary complications, which is not likely to be the case, if it be applied early and at the same time with discrimination, a strong case is made out for its more general adoption. At the same time, we are far from underrating the difficulties of drawing conclusions from figures. Perhaps there is no disease which is more capricious in its course; it constantly happens that continued fever is called typhoid because we do not know what else to call the attack, and when, under these circumstances, it becomes the practice to cool fever at 102°, for instance, and to start as early as possible in the course of the attack, no doubt this treatment will acquire here, as it has already acquired abroad, a better character than it deserves.

It is a truism that nothing succeeds like success. In this respect, Dr. Bristowe's criticisms are of great value. There can be no doubt whatever that the application of the cold treatment to fever is the handling of a means of great power, and of proportionate danger if used without discrimination; and this in all sorts of ways, as regards the type of the fever, and the patient who is to be treated. We talk of dangerous remedies, but it is a question of risks. A disease so severe as to be dangerous to life can hardly avoid some risk in other directions in the treatment, if the malady is to be combated successfully. We can, therefore, but expect that baths will occasionally produce grave results, and such must be carefully noted as they occur, that they may be avoided as far as possible subsequently. As regards Dr. Bristowe's remark, that in St. Thomas's and other hospitals the treatment has been abandoned after trial, we venture to hesitate before accepting all that it might seem to imply. All, of course, hinges upon the question what the trial has been; the treatment, as we have said, is one at the result of which it is difficult to arrive. Dr. Taylor showed this from the experience at Guy's, in consequence of the want of uniform methods. Some are bathed, some sponged, some packed, some cooled once or twice only during a long course of fever; but it may be doubted whether there has yet been any systematic practice of this kind, except by individuals and at the Fever Hospital. And it was worth noting that all who have tried the bath-treatment of enteric fever, or most of them, spoke warmly in its favor; and, of those who spoke against it, very little evidence was forthcoming, except by Dr. Bristowe, of the objections that were raised being the outcome of their experience. Dr. Samuel West, summarized his remarks in four objections; and much of the mind and heart of the profession would probably concur with Dr. West's objections; but what are they? That the cold water treatment is based upon a one-sided view of the process of fever—but the same might be said of any or every treatment for almost any disease. Mercury hits syphilis when the marksman has but a very fractional view of the bull's-eye. Again, it is objected that the success of the treatment depends upon the clinical skill with which it is applied. We should certainly be sorry to deny it; but is it any less so with digitalis in heart-disease? Mr. West is, no doubt, correct in saying that a general opinion has developed against the practice; but this has been already indirectly alluded to, and in some measure explained, in a sense that makes the objection of less weight than it would otherwise be entitled to.

Lastly, it is said that this is a question which statistics will not settle. We admit, for there is no doubt about it, that typhoid fever varies to a high degree in intensity in different epidemics, and we only come back to this: that it is unsafe to take a large number of cases collected from all sources, of which no minute details can be stated; and that the experience of individuals, provided it be obtained upon some definite plan, and is large enough to ensure an average result, is probably more reliable. We should think this the more, for another reason just noted; that no doubt this is a treatment that does require clinical skill. It seems that this personal experience for a sufficiently long period, and from several independent workers, is still a desideratum. Dr. Coupland's series is admirable, as showing the kind of elaboration that is wanted; but it is hardly sufficient as yet to prove the reduction of the mortality—the kernel of the matter—though unquestionably the finger of observation points that way.

Thus far, on the whole, facts are in favor of the cold bath. But there is another aspect of the question which must be by no means reckoned too cheaply. Is the general adoption of this plan practicable? This hardly received the attention that was its due. Dr. Mahomed did indeed express the opinion that there was no valid objection to the application of the antipyretic treatment in private houses. But if by antipyretic treatment he meant the cold bath, it is quite certain that within a very short radius of his window, several of those who are engaged in general practice could easily be found to convince him of his error. It is too often forgotten in the treatment of disease that the attitude, the often enforced attitude, of the general practitioner to his patient, is "all things are good, but all things are not expedient." There is the already-mentioned cold reception of the suggestion of a distasteful remedy, when coming at the onset of the illness, and when there is perhaps no appearance of any great severity of the attack; for it must be remembered we are not now dealing with hyperpyrexia. This is an objection valid enough, since it is a real obstacle; but put it aside as worth nothing in face of an increased risk to life, and then come to no bath but the morning tub; no nurse, perhaps, but a sister or wife; perhaps there is a suitable bath, but the room is so small, or the bed so high, as to make the moving the patient a matter of the greatest difficulty.

These are only some, indeed few, of the difficulties met with in hundreds of homes in the middle classes; and, as a matter of experience, we venture to say they are often so great as to make even an advocate of the cold bath look sometimes very carefully to see if, perchance, some less radical measures may not suffice for the occasion. Even in a hospital, a case requiring frequent bathing upsets a ward considerably, and we have certainly to learn that, except in the best-appointed homes, a treatment which consists of lifting a patient in and out of bed, perhaps frequently, bathing him, etc., can be anything but troublesome and disagreeable.

No doubt there are many families where means, intelligence, education, and energy on the part of the medical attendant, will all contrive to render the treatment as easy as possible under the circumstances; but, for the present, the rule being, we believe, as we have stated it, what is wanted is a comparative series of cases treated by the cold bath on the one hand, and by other measures, such as sponging and ice-packing, on the other.

It is admitted on all hands that the reduction of temperature by bathing is more decided and more persistent than by any other means; but, at the same time, we cannot think that the ingenuity of the mechanical mind has exhausted itself in its measure of applying cold to the surface of the body. It would hardly be an insuperable difficulty to apply continuous cold to the surface, either dry or moist, equivalent to that of the bath; and it is quite possible that in the ice-pack and the water-bed, or some modification of it, the advantages might be obtained without the necessity of taking the patient from his bed.—*Brit. Med. Jour.*

NOTE.—So far, the practical difficulty in the arguments placed before the profession is this: When a large number of cases is cited by one individual, as by Coupland, these cases are drawn from different localities, from different epidemics, from different stations in life, and from different observers; the circumstances surrounding and affecting such cases are so diverse that the results are demonstrably affected, and such cases prove nothing. On the other hand, a few cases reported by one individual prove nothing; if fatal, this may be due to epidemic and other influences and not to the treatment; if favorable, the same objection is applicable. It is undeniable that, so far, the voice of the profession is against the use of the cold bath in typhoid fever; the practice is often dangerous; it is always inconvenient; it is not yet proved to be so superior in results to other and less objectionable methods as to warrant its adoption. What is wanted is the result in a large number of cases thus treated by one individual, under similar circumstances and during the same epidemic, contrasted with the same character of cases treated by him in accordance with other methods. This would be proof; and until it can be had, the safer plan is to wait and to adopt more orthodox measures. Watson's treatment, milk and opium, with cleanliness and ventilation, has, so far, no superior.—E. S. G.

SANITARY DEPARTMENT.

VENTILATION. By JUSTIN M. HULL, M.D., Member of the State Board of Health, and Chairman of the Standing Committee on Ventilation and Heating.*

A COMMITTEE to whom was referred plans from which to select models for school buildings in the city of New York, made their selection, awarded the prizes according to the conditions of the prize giver, and then declared that none of the plans fulfilled the requirements of a sanitary school building.

The committee says: "A school building should possess the following qualifications when built in a city:

"1. It should be freely exposed to air and light, and should be not less than sixty feet distant from any opposite building.

"2. Not more than three floors should be occupied for class-rooms.

"3. In each class-room not less than fifteen square feet of floor area should be allotted to each pupil.

"4. In each class-room the window space should not be less than one-fourth the floor space, and the distance of the desk most remote from the windows should not be more than one and one-half times the height of the top of the windows from the floor.

"5. The height of a class-room should never exceed fourteen feet.

"6. Ventilation should be such as to provide for each person in a class-room not less than thirty cubic feet of fresh air per minute, which amount must be thoroughly distributed without creating unpleasant drafts, causing any two parts of the room to differ in temperature more than 2° F., or the maximum temperature to exceed 70° F. This means that for a class-room to contain fifty-six pupils, twenty-eight cubic feet of air per second should be constantly furnished, distributed, and removed during the school season. The velocity of incoming air should not exceed two feet per second at any point where it is likely to strike on the person.

"7. The heating of fresh air should be effected either by hot water or low pressure steam.

"8. The fresh air should be introduced near the windows; the foul air should be removed by flues in the opposite wall.

"9. The building should not occupy more than one-half the lot."

This committee was composed of George R. Post, architect, New York; John S. Billings, Surgeon United States Army, and Vice-President of the National Board of Health; Hon. John D. Philbrick, United States Commissioner of Education at Paris and Vienna Exposition; Wm. R. Ware, Professor of Architecture, Massachusetts Institute of Technology; certainly men of authority and capability.

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*Extracts from the Second Biennial Report of the State Board of Health of the State of Iowa, 1883. The Editor of this journal is indebted to Dr. R. J. Farquharson, Secretary of the Board for the valuable illustrations herein presented.

It would be wise to heed their advice and provide school-houses with sufficient light and ventilation, rather than turn loose crammed, near-sighted, round-shouldered boys and girls, with no health or disposition to work.

At the Centennial Exhibition at Philadelphia was shown a "model school-house," which had been approved and adopted by the Government of Belgium. It received marked attention from those interested in educational subjects, and I therefore present the methods provided for ventilation:

1. The surbase was set off from the wall about four inches all around the room, thus forming an air space which was covered with perforated zinc. Several openings about eight inches square were made from this space to the outside. These openings were provided with hinged covers, to be opened or closed at pleasure; the air enters these openings, strikes the surbase, and is reflected upward into the room through the perforated zinc.

2. The lower sash of the room was fixed; the upper sash was hung on hinges at the bottom, and arranged so as to drop inward at an angle of thirty degrees or less, at will. The air entering the room strikes this inclined sash and is reflected upward to the ceiling, thus preventing direct draft upon pupils.

3. The stove received the air necessary to support the combustion of fuel, through openings in the floor.

4. The foul air was carried off through registers in each corner of the room, connected with flues under the floor, each flue forming a junction under the stove and connecting with a single flue in the stove. which passed through the roof. This flue was placed alongside the hot air flue in the stove, which created a heat and drew the foul air upward. A space was made around the ceiling of each room similar to that below at the surbase, and covered with perforated zinc. This space communicated with the outside air by pipes at each corner, eight inches in diameter, capped with an elbow and vane so arranged that the mouth of the cowl would be turned from the wind. This would cause a draft which would draw the foul air from the upper part of the room.

These plans of ventilating apply to large school-buildings, usually found built in cities and large towns. The large majority of our school-buildings are of one story and heated by a stove. To properly ventilate such is a difficult matter, yet much may be done to secure good ventilation in such buildings. A. C. Martin, an architect of Massachusetts,* has devised a plan which has been improved by Dr. Kedzie.

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There is still another class of school-buildings in the rural districts already constructed which have no appliances for ventilation. In such

*Mass. Report of State Board of Health.

very much may be done by the teacher. Rooms should be thoroughly flushed with air before and after school.

This may be done by lowering windows and opening doors. When the room is closed a strip of board two inches wide and the width of the window in length may be placed on the window sill under the sash, through which outer air will enter the room. The stove pipe opening in the chimney will furnish a good outlet for bad air.

Every school-house of one story could be supplied very cheaply with fresh air by an air duct leading from the outside underneath the floor to the space underneath the teachers' rostrum, and through perforations made in the base-boards or riser of the rostrum. It would be much better to enclose the stove in a short iron jacket rising above the stove, and have the air ducts extended underneath the stove, where holes in the floor could be made for the air to pass up between the jacket and stove, and thus become heated in winter.

H. A. Robinson's ventilator placed in the upper part of the room and carried out through the roof will also provide a good ventilation by admitting fresh air on one side of the ventilator and carrying of foul air on the other. Where this is used the stove may be surrounded by a jacket. A coal stove may be jacketed as well as a wood stove.

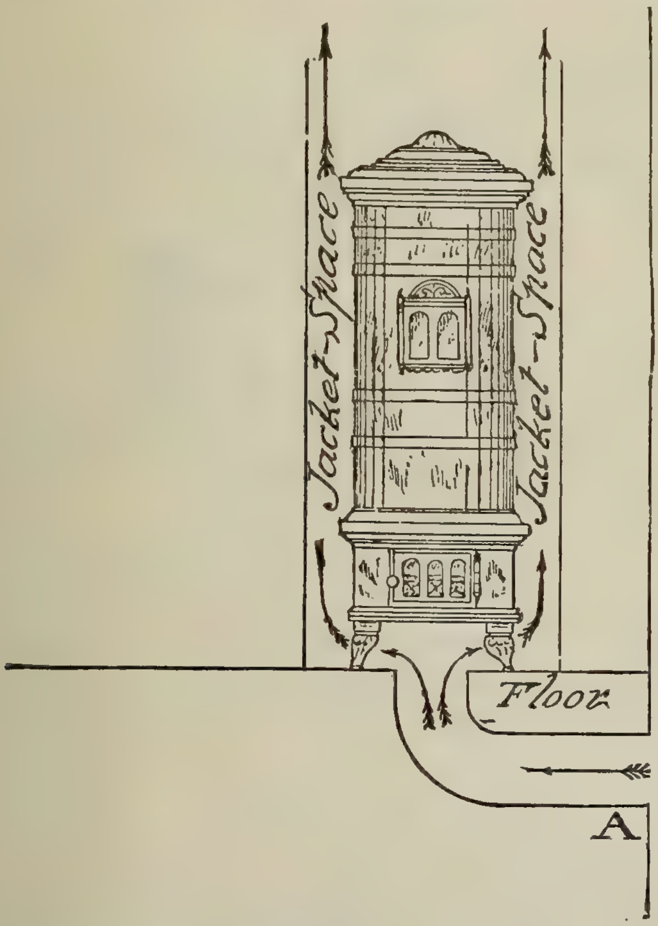

FIG. 9.

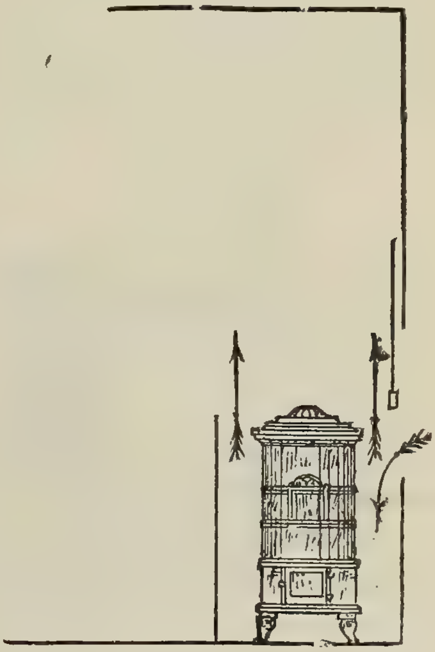

FIG. 10.

Dr. D. F. Lincoln, in his paper on "School Hygiene," published in the Second Annual Report of the New York State Board of Health for

1881-2, gives a very simple method of utilizing common stoves for heating and ventilation, which was reprinted in the *Sanitary Engineer*, January 25, 1883, the publishers of which have kindly loaned the cuts herewith to illustrate this plan.

Figure 9 shows how a "jacket" may be used. It is a metal cylinder or casing of sheet iron considerably larger than the stove, placed around the stove, its lower edge fastened to the floor under the stove, and led through the house wall at A. Guard the inlet at A with a screen to keep out paper and other sweepings, and a large supply of pure warmed air is drawn into the room. This is one of the cheapest and best devices for heating and ventilating. Some prefer to extend the jacket around only a part of the stove and leave the door uncovered; or the jacket may stop at the bottom of the stove, and be made fast to the latter at that point. This arrangement is equivalent to a portable furnace such as is usually placed in a cellar or basement.

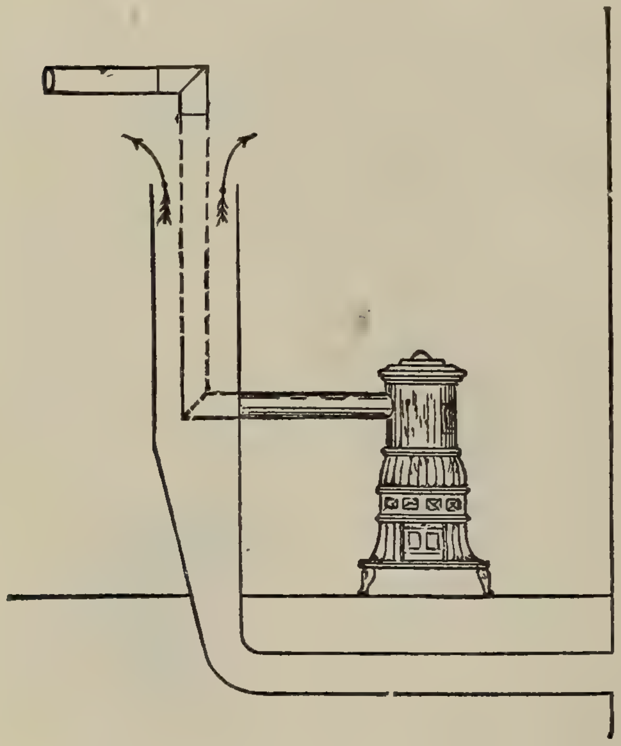

FIG. 11.

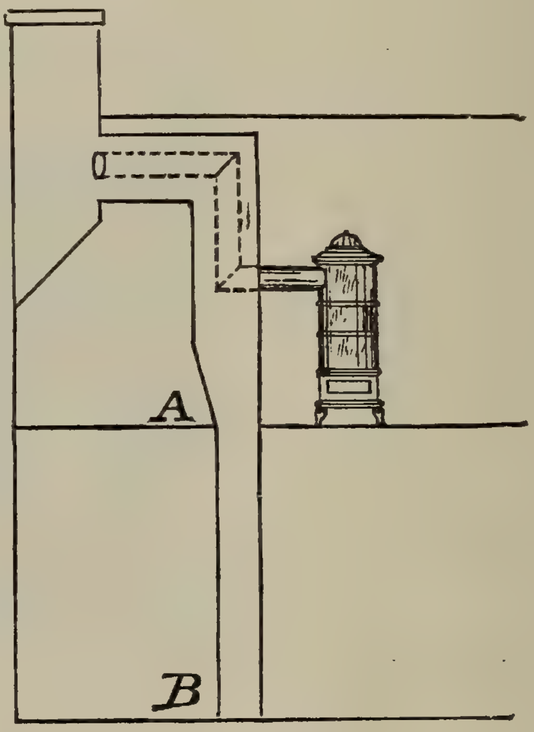

FIG. 12.

Fig. 10 represents a stove standing close to an open window. The movable semi-cylinder of the metal used for a screen, has been so placed as to enclose the stove on all sides, except that toward the windows. Cold air may then be admitted. It is quickly warmed by contact with the stove, and is thrown upward with the general current.

Fig. 11 shows air brought in so as to be warmed by contact with the stove pipe. The inlet flue is enlarged and runs up with the stove pipe like a jacket for some distance.

Fig. 12 shows how a stove-pipe may assist in removing injurious air. The diagram represents a two-story house with a chimney which comes down only a short distance from the roof. The opening into the chimney for the stove-pipe is enlarged so as to receive a much larger pipe, which encircles the stove-pipe like a jacket. This jacket may stop short at A, or may be carried through the floor to B, in the first story. It will secure a draught in either story as may be arranged. The idea of this plan was borrowed from an article in the Michigan Board of Health Report of 1879. A chimney into which a smoke-flue discharges may be opened at any point below and not too near the point where the smoke enters. Where a chimney reaches to the floor, and the stove-pipe enters near the ceiling, the chimney ought to lend its powers to the task of ventilating the room by an opening near the floor. This opening should be closed when starting the fire in the room.

It is not often convenient to obtain an analysis of the air in a room, so as to ascertain the amount of carbonic acid therein. A simple and very efficient test may be made by filling an ounce bottle with pure rain-water, take it into the room to be tested and pour out the water. The bottle will then fill with the air in the room. Pour into the bottle half an ounce of clear lime-water and shake thoroughly. If it remains perfectly transparent, with no trace of milkiness or turbidity, it does not contain more than eight parts of carbonic acid in 10,000, and the air in the room is healthful. This test is given by Dr. Angus Smith, in his work on Air and Rain.

RAILROAD CARS.

It may seem an absurdity to say anything upon railroad car ventilation, but when we consider the millons of people who travel it becomes important. It is true there is in a majority of cases but a brief occupancy of a car, yet there are vast numbers who spend hours and days in cars. It therefore becomes of great importance. I need not recount the important features of riding in a railroad car, the bad air, oppressed breathing, hot, heavy, aching head, cold feet in winter, dust and stench in summer.

It is not surprising, with sixty persons crowded into a space healthful only for four, one should become wearied and exhausted by even a short journey. If you open a window in winter a freezing draught is the result; in summer it is dust, cinders, and dirt. To open a door increases the evil. How to remedy it is a problem not yet solved, though various plans have been tried, some of which work well when the car is in motion. Recently a mansard roof has been added to coaches, and on the sides small hinged windows have been placed ostensibly for ventilation, but they are a delusion. The average brakeman, to whose care they are entrusted, has as little conception of their proper use as he has of anything else of which he knows nothing. There is little hope of securing proper ventilation of cars by the action of any board of medical directors, because of the inevitable expense. No system can probably be devised which will properly ventilate a car when at rest, and certainly none when a car is in motion, unless the windows are made fast; and what would the average woman who travels do, if she could not hoist a window at the moment she took her seat in a coach?

NOTE BY THE SECRETARY OF THE STATE BOARD OF HEALTH OF WEST VIRGINIA.

Consideration of this subject involves not only the art of architecture, which was well established two thousand years ago, but also the modern problem of ventilation in its relations to oxygen and to animal life.

It is the common boast that every man's house is his castle—that we are a free people and the earnest advocates and patrons of those arts and sciences which tend to prolong life and increase the daily sum of human happiness; but, alas! how frequently is it the case, even in the midst of boasting and fancied security, that we harbor a most deadly enemy who has complete mastery of the premises; whose unrecognized, because habitual, poisonous breath taints every apartment from cellar to garret; and that we are, indeed, his slaves and his victims, because of ignorance chiefly chargeable to the architect and the builder. If a man build a house, he is at once involved in the difficult problems of ventilation, heating and drainage, and his knowledge and appreciation of their sanitary value will influence and determine, in a great measure, the health of the occupants, not only of the family residence, but of the factory, the workshop, and the school-room, where men, women and children are compelled to pass the whole of the day; and of the visitors of churches, theatres, and other places of amusement and instruction, where, most frequently, ventilation is ignored, and the laws of cubic space, if not unknown, are generally disregarded.

Sixty years ago the physiology of respiration was not understood, and it is but little over a century since oxygen was discovered. Now nothing is better established than that foul air is a most prolific agency in the production of disease, but how to drive out the poison from the household, from the workshop, from the manufactory, from churches and public halls, from the schoolroom, etc., and supply its place with the great natural disinfectant and purifier, pure fresh air, of which, under all circumstances, every human being should have at least one thousand cubic feet every hour, is the question of great difficulty.

When the fact is stated that most of civilized races spend about one-third of their lives in bed, the importance of well-aired sleeping apartments can be appreciated. The great source of impurity in sleeping rooms, is the organic matter ejected by the lungs and skin, especially in disease, which attaches to the furniture and clothing, and is positively more deleterious than carbonic acid. It possesses a foul, unmistakable odor, which may at once be recognized by the sense of smell, but association and familiarity, so far from quickening the sensibilities and begetting increased disgust, very soon so blunts the perceptions that the sickening, poisonous breath, laden with organic germs, may be quaffed without the least consciousness of offense or danger. The amount of air actually rendered impure by respiration cannot be compared with that required to absorb and render innocuous the organic germs from the bodies and clothing of those occupying a room. Indeed, it has been asserted that ten per cent. of carbonic acid mechanically mixed with common air, is not so detrimental to health as two per cent. in air that has been poisoned by respiration and exhalations from the lungs, skin and body-clothing.

The complete remedy is a regular and constant supply of fresh air from without.

It is more difficult to ventilate a close room in summer than in winter, for the reason that there are no fires in summer to create a draft or disturb the air, but it may be sufficient to open the windows at the top and bottom, and the fire-place, which should never be closed at night when the doors are shut. In cool weather, "instead of asking ourselves," says Dr. George Derby, of Boston, "with how little fuel can I warm my house, by stopping the flue and the beneficent window cracks which the carpenters have left, the question should be, how much can I afford to pay for fresh supplies of pure air, moderately and equally warmed and distributed without waste? I cannot help believing that the sum of family health and happiness, in a generation, would be more increased by liberal expenditures for this purpose than for any other." Again, he says of the cost of pure air, "The best way is to freely admit that it is expensive, but worth the money it costs."

But there are other consumers of oxygen than human lungs, among these are lamps and gas burners, each of which consumes as much oxygen as a healthy adult person, and is constantly evolving carbonic acid.

Concerning the poisonous nature of carbonic acid, physiologists and chemists have widely differed in opinion, Diluted with two parts of air, it has been used as an anæsthetic, and its harmlessness and really refreshing qualities, as dispensed at the soda fountains, is well understood. Dr. Taylor, "Med. Jurisp.," p. 711, says: "It is absolutely necessary to make a distinction between contamination of air by the addition of a proportion of free carbonic acid, and the case where this gas is produced by combustion of respiration." According to M. Bernard, "Substances Toxiques," p. 137, it is not poisonous, and that when an animal dies from breathing this gas, its death is owing to the mere want of respirable air. He, therefore, with many others, considers its action to be purely negative, like that of nitrogen—that it operates not by poisoning, but by suffocation. An important distinction, however, is to be made between carbonic acid and nitrogen, since the former is readily absorbed by the blood. Dr. George Derby, in his admirable little book, "Anthracite and Health," p. 37, thinks carbonic acid "really possesses active noxious properties of its own, and that when respired its effect is narcotic."

M. Guerard is of opinion that "carbonic acid is rendered more fatal by the presence of carbonic oxide"—an active, inodorous poison—one volume of which, says Leblanc, diffused through one hundred volumes of air, totally unfits it to sustain life; "and, that a quantity of each, which, if respired alone, would be innocuous, may become fatal to life if respired in mixture." Carbonic oxide, the deadly gas just referred to, is produced abundantly in combustion of anthracite coal, and may be recognized by the pale, blue flame that flickers over grates, stoves and furnaces. Its poisonous action is displayed chiefly on the nervous system, causing giddiness, difficult respiration, confusion of ideas, languor, and sometimes acute pain, etc.; and is the author of countless ills where hard coal is the fuel in general use. But, even then, there are many families who will not, cannot have it in their houses, because of its narcotic, poisonous effect; and not a few habitually substitute—regardless of expense and soot—our soft or bituminous coal, which is entirely free from the dangers just described as belonging to hard or anthracite coal.

Very different impressions are produced by different kinds of fuel—hard coal, soft coal, and wood—and by many persons even the kind of furnace (if one is used), can at once be declared by the quality of the air in the rooms; that is, can distinguish a hot air furnace from one in which the air is conducted through coils of pipe containing either steam or hot water. In houses warmed by anthracite stoves and furnaces, delicate varieties of plants do not thrive—unless great care is taken they soon wither and die; and for the same reason, hot air anthracite furnaces cannot be used in green-houses.

The degree of relative humidity which the air of a room should possess for healthy respiration is a subject of very great importance. Man's tolerance—his wonderful adaptation to the circumstances by which he is surrounded—is too often forgotten in reasoning upon the question.

"The human body," says Dr. Derby, "cannot be regarded as an inanimate hygroscope substance liable to warp and crack like a piece of furniture. A close analogy may be discovered between the capacity not only to bear, but to enjoy the highest health under extreme alternations of both temperature and humidity. Animal heat is maintained at about 98°, whether the temperature of the air is 20° below zero or 100° above. It by no means follows because the air is dry that the evaporation from the human body is in proportion to its aridity, although this no doubt has an effect. But, supposing this excessive evaporation were proved, it still remains to be shown that the effects upon the health are injurious. A man is in himself a reservoir of water, three-quarters of his whole bulk being composed of that element; and he is also a great evaporator, giving off by the skin and lungs, according to the best authorities, from twenty-five to forty ounces, or about a quart of water per day. This exhalation is doubtless controlled, limited and regulated by the nervous system. Certainly, knowing these facts, we may at least doubt the expediency of adding the evaporation of water to the heating apparatus in any crowded assembly. A theatre or lecture-room containing 2,400 people is already provided with an evaporating apparatus, throwing into the air twenty-five gallons of water per hour, and under such circumstances the air soon becomes saturated unless frequently renewed. That saturated, warm air, is exceedingly oppressive, is a fact which anybody recognizes in the dog-days of August."

The tendency of a moist atmosphere to combine with organic impurities has already been stated, and for many other good reasons a dry quality of air should be preferred.

Dr. Alfred L. Carroll, in his invaluable little treatise—"Hygiene in its Relations to Therapeusis"—says:

"With regard to the hygrometric conditions of the air, we find two kinds of action—on the pulmonary and cutaneous surfaces. Dry air is a very bad conductor of heat; hence, in a dry, cool atmosphere, the temperature of the body is lowered chiefly by radiation. On the respiratory organs, however, dryness of the air has a directly cooling action, owing to its affinity for moisture. The capacity for moisture, or point of saturation, varies enormously at different temperatures; for instance, 100 cubic feet of air at 4° Fahr. will contain but 6.6 grains of water, and at 100° will contain 216 grains. Now, if the amount of water present in a given volume of air be very far below the hygrometric capacity, this air will absorb water by evaporation until it is saturated, or it may be greatly reduced in temperature before it will part with any moisture. . . . . Thus, the air of a chamber containing 1,000 cubic feet may be saturated at 32° Fahr. (its moisture representing, so to speak 100—100); but if it be heated to 75°, this relative moisture will be reduced to about one-quarter, or 25—100, and more than a half pound of water must be added to saturate it. The pulmonary action, under the latter circumstances, will be subjected to a refrigerating and desiccating process, until the requisite moisture is supplied. . . . . By a seeming contradiction in physics, while cold, dry air, through its non-conducting property, acts in some sort as a conservative of animal heat, hot dry air, on the other hand, is to a certain extent a cooling agent, owing to the rapidity with which evaporation of the perspiration occurs. *Vice versa*, while a cold, humid atmosphere is a speedy refrigerant, warm, moist air augments the bodily heat."

A damp cellar, no less then a full privy, is a constant and very great source of danger, because its unhealthy atmosphere reaches every room in the house, and may sicken unto death every member of the family. If it contains provisions or other articles in a state of corruption, the danger is at once fearfully increased, and the most fatal consequences may ensue. If, instead of being simply damp, it contains water from surface infiltration, or from a defective drain or soil-pipe, and the accumulation allowed to remain, particularly in warm weather, a gaseous poison is emitted, which may spread disease and death over a whole neighborhood. From these neglected sources of disease the residents of many a palatial residence have been consecutively and fatally attacked. The attention of every housekeeper should, therefore, be particularly directed to the condition of the cellars and vaults attached to his dwelling, and the necessary precautions taken to prevent the accumulation of every species of filth or corruptible matter. It is in vain to expect that all the advantages resulting from domestic cleanliness shall be realized when the dirt, carefully expelled from the parlors, sitting and dining rooms, is permitted to take undisturbed possession of the less frequented parts of our dwellings. To preserve health, the process of purification must visit every apartment, from garret to cellar—the latter, in particular, should be swept frequently, and the dirt thus collected immediately removed. The windows should be so constructed as to allow fresh air and sunlight, besides which, to insure perfect ventilation and dryness, the door should be kept open several hours every day, except in damp or rainy weather. An excellent means of purification of a cellar is whitewashing with lime, and this process should, on that account, be performed at least once every spring and summer. No expense or trouble should be spared to prevent the entrance of water into the cellar, or to drain it off, if possible, by means of sinks penetrating to a stratum of gravel. On no account should the drainage pipe communicate with a sewer or privy cesspool, unless most securely trapped.

"Another source of danger," says Dr. Derby, "in our houses, similar to that which we have just referred to, yet seeming to require special mention, is from the retention of decomposing materials in furniture. Dining-room carpets receive a great deal in the *débris* of food. It is carried about in the air, and, in combination with vapor, attaches itself to woolen and cotton textures of every kind, to paper-hangings—to whatever will absorb moisture. A house whose entry smells musty is dangerous. Avoid it. Don't live in it. Keep the children out of it."

By a strange contradiction of fashion, the carpenters put large windows in the houses to let in the sunlight and ventilate the rooms, while housekeepers as regularly cover them up with curtains and shutters, and for their pains and lack of knowledge they often pay for their darkened rooms a mournful penalty. Better far that they worshiped the god of day as the source of life and light and heat. They hunt the sunlight for their tender house plants ; why not do the same for themselves and their children ? Who woos Hygeia at her favorite shrine receives from her rosy fingers the crimson-tinged cheek and sparkling eye—the reward and badge that distinguish her votaries.

"Then let in the sunlight," writes Prof. Samuel Kneeland, in "Good Health," "to drive away the mould and mustiness which lurk in your halls and closets, and even in your parlors ; far better that the carpets and chairs and curtains should fade than that the rosy tints of health should disappear from the lips and cheeks of your children. The rays of the glorious sun are necessary for vegetable and animal growth, and, above all, necessary for the healthy growth of the human being. Open, then, your curtains and blinds, and see how quickly the sun will change the atmosphere of your house, bringing light and warmth into musty corners, vivifying the air of every room, reddening the cheeks of the pallid children, and giving to every member of the family a vigor before unknown."

ORIGINAL CORRESPONDENCE.

15 Rue Caumartin, Paris, July 15, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Doctor: Much excitement prevails here in regard to the outbreak of cholera at Toulon, and the journals are filled with learned disquisitions from medical and non-medical scientists relating to the question of its character and origin.

The popular impression seems to be, that if it be "indigenous" there is no danger to be apprehended, as it will prove essentially a local visitation; but if "exotic," it is to be feared, and will certainly invade Paris. Dr. Fauvel, an acknowledged authority, whose attack upon England for the Egyptian epidemic of last year, you will remember, was amongst the first to rush into print, and to declare, in the most peremptory manner, that the disease is *cholera nostras*, and will expend its virulence upon the inhabitants of Toulon exclusively. As he has not seen a case of the disease, and has no special sources of information respecting it, the question naturally presents itself as to *how* he has formed such an opinion, and *why* he should be so emphatic in its enunciation.

The French mind is, however, a peculiar institution, and its operations are frequently beyond the ken of human understanding, while the passion for notoriety is as strong—to put it mildly—in this country as in any other.

Professor Brouardel, who was dispatched by the Government to Toulon as soon as the disease appeared, and who is a thoroughly reliable man, preserved at first a judicious silence in regard to this question, his telegrams simply announcing the number of cases under treatment, the percentage of mortality, and the measures which he had instituted for the arrest of the disease. He has subsequently expressed himself as inclining to the view of the "Asiatic" type of the disease, though he regards the epidemic as more benign than any previous one which has invaded France.

In my judgment, Dr. Fauvel in attempting to show that the disease is "indigenous," and consequently not to be apprehended beyond the limits in which it has declared itself, has committed a grave error, and has led the people into a condition of false security in regard to it. Contrary to the text-books, I believe that cholera *may* originate in *any* locality where the causes which call it into existence are sufficiently potent for its production, or in other words, that it depends for its development not upon *special* localities but upon particular *agencies*, acting with sufficient intensity. Whenever so produced it is, in symptoms, clinical history, progress, and conclusion identical : the cholera of Asia, Africa, Europe and America being essentially one and the same disease in all regards. The moment it ceases to be *sporadic*, *i. e.*, attacks only individuals whose physical condition renders them less capable of resistance, and becomes *epidemic*, *i. e.*, assumes a vigor before which masses succumb, it kills, marches, and obeys all the laws apertaining to zymosis.

It is true that each epidemic assumes some peculiar form, being more or less virulent, preceded or not by prodromes, pursuing a direct or a circuitous course, having some special symptom prominent, etc., but it is cholera pure and simple after all.

It is not surprising that this epidemic should have originated at Toulon, for the accumulation of filth there is said to be sufficient for the production of any species of germ or miasm, and though it be "indigenous," its propagation is as much to be expected as if it were of "exotic" origin, Dr. Fauvel's emphatic assertions to the contrary notwithstanding.

It is the fashion here to denounce England for her want of faith in quarantine restrictions—for her "subserviency to the interests of trade, even when life and death are in the scales"—but she is so far in advance of this country as regards precautions for the preservation of the public health, and attention to the great question of hygiene, as to make these attacks seem ridiculous, if not contemptible. She may have been responsible for the appearance of cholera in Egypt, but it was impossible to carry on the war in which she was then engaged without necessitating a great risk in this regard, whilst the manner in which she met and conquered it furnishes her enemies with an example from which to learn much that they are ignorant of, and would be the better off for knowing. It is quite certain that, notwithstanding her contracted area, and her teeming population, there is hardly a spot within her limits so reeking with filth as to render the spontaneous development of the disease a possibility, as at Toulon. As heterodox as the position which I have taken in regard to cholera may seem to the Macnamara school, it cannot be controverted without involving nature in the paradox of intervening between cause and effect, and rejecting arbitrarily the testimony of those who have encountered cholera, and even died of it, under circumstances which precluded the possibility of the influence of contagion. But, apart from all *a priori* reasoning on the subject, the present outbreak at Toulon determines the question of the spontaneous development of cholera outside of Asiatic limits with absolute certainty. (?) Notwithstanding the most exhaustive investigations, it has been impossible to discover the link which binds the existing epidemic to a precedent one of exotic origin.

Dr. Brouardel states emphatically that, though the disease presents all the features of genuine "Asiatic" cholera, the first cases occurred on the "Montebello," which had not been at sea for a long time, and had had no communication with the shore or the fleet, and that the cases which occurred immediately afterwards were so far remote from their predecessors as to exclude the idea of their production by contagion. It must be accepted, then, as an established fact that cholera of an "Asiatic" type has been developed in France—as it doubtless has been developed in other countries—and it follows that the discussions which have occurred in this regard, as to the name by which to designate the disease, are as idle as they are misguiding.

It is announced that Geheimrath Koch, the German physician whose alleged discovery of the cholera bacillus has elicited such severe criticism in France, has been invited by the authorities of Marseilles to visit that city, and to continue his investigations there. This is certainly most commendable, since its tendency is to obliterate all geographical lines from the domain of science, and to test at the same time the question of the existence, and the significance of this pretended characteristic. However destructive this epidemic may prove to humanity in one direction, it is pregnant with great benefits in another; for the disease will be studied in the light of an advanced science by the ablest observers of all nationalities, under the most favorable circumstances for the collection of all the facts which relate to its essential nature and its clinical history.

The hero of the hour is Dr. Brouardel, the newly-appointed President of the Board of Public Hygiene, and he richly deserves the worship of which he is the recipient. I made his acquaintance under peculiar circumstances, as I shall relate, but they enabled me to form a just appreciation of the man.

A medical friend of mine, a foreign physician of much ability and experience, attended a case in which great pain in the precordial region and along the track of the nerves of the left arm was experienced, accompanied by constant dyspnœa, difficulty of deglutition, tendency to syncope and insomnia, etc. Suspecting the existence of an aneurism, he requested a consultation with some leading practitioner here, but, instead of acceding to his request, the family called in one of the aforesaid "hotel doctors," with whom my friend very naturally refused to consult, and retired from the case. Previous to his withdrawal he had administered hypodermically the daily dose of five drops of "Magendie's solution," without which the sufferings of the patient were absolutely insupportable, and such a dose as he had repeatedly taken without the slightest detriment. Unfortunately, it so happened that some hours afterwards the patient sank into a state of collapse, and died rather suddenly, and the *médecin titulaire*, chagrined by the rebuff which he had received, and consequently thirsting for revenge, immediately reported to the Commissary of Police that the "patient had been killed by his medical attendant." The body was transported to the Morgue for examination, and preparations were made to arrest my friend, and to try him on the charge of having caused death *par imprudence*, which, under the Code, is a very serious affair. The Professor of Legal Medicine in the Medical School of Paris has, *ex officio*, a general supervision of the Morgue, though the work there is usually performed by his subordinates; but so soon as Dr. Brouardel was informed of the facts of the case, he took the matter in his own hands, and conducted the post mortem personally, and with that skill and exactitude for which he is so greatly distinguished. The result was a thorough vindication of the accused, for the Professor at once discovered that the thoracic cavity was filled with blood from the rupture of an aortic aneurism, and that the patient had died from a natural and inevitable cause. Having sent for the author of the outrage and forced him to see for himself the nature of the lesion from which death had occurred, and to realize the extent of blundering to which his malignity had carried him, he reported the facts of the case to the authorities, and obtained from them an acknowledgment of the entire innocence of the gentleman against whom the infamous plot had been concocted. In this connection I was brought into intimate relations with Brouardel, and was greatly impressed by the genuine sympathy which he displayed for his unfortunate confrère, his thorough independence of character, and his profound knowledge of his special department of medicine. If it was disgusting to see professional malignity carried to the extent of attempting to ruin the career of a rival, by connecting him with crime, it was correspondingly refreshing to witness the unsolicited efforts of a good and true man to vindicate the reputation of a brother physician with whom he had no personal acquaintance, and whose only claim upon him consisted in the fact that the accused was a stranger and needed a friend.

Though scarcely forty years of age—for he graduated in 1865—he is a member of the Academy of Medicine, a professor in the Medical College of Paris, an officer of the Legion of Honor, and the President of the Committee of Public Hygiene, positions which he has gained neither by favor nor intrigue, but by the elevation of his character, the profundity of his knowledge, and the force of his indomitable energy. The fact of his selection as the successor of Tardieu and Wurtz is in itself a tribute to his genius of greater significance than language can convey, and it will stand as an imperishable record of his worth while their great names are remembered. Short, and not imposing in stature, with a round and symmetrical head covered with a scanty crop of auburn hair, soft blue eyes, and a smiling countenance, his appearance does not convey an idea of the physical and intellectual vigor which really appertains to him. In conversation, also, he is singularly placid for a Frenchman, indulging in no accentuation or grimaces or gestures, while words of singular beauty and pertinency flow in an unbroken and exhaustless stream from his lips. As a *speaker* he does not specially excel, as he is somewhat prolix, and disposed to follow thoughts into their minute ramifications; but as a *talker* he is one of the best that I have ever heard, being fluent, ornate, forcible and impressive to a degree that charms and convinces irresistibly. There is one impression, however, that he never fails to make—alike in public positions and in private relations—from every line of his face and movement of his frame and tone of his voice, the word *gentleman* is expressed with a force and significance which the most obtuse cannot fail to hear and to appreciate. There is no guile or deceit or intrigue in his nature, but he is loyalty, honesty and candor personified, and much of his success in life is due to the fact that these attributes are written so legibly upon him as to preclude the possibility of the slightest mistake in reading or interpreting them.

By virtue of his position in the school, he is the Chief Coroner and Expert of France, and it is his province to investigate all important medico-legal questions which present themselves. It might be supposed, from the placidity of his manner, and the gentleness of his disposition, that this work would prove uncongenial or embarrassing to him, but such is far from the truth. Under that quiet exterior there exists a spirit which, in response to the call of duty, can rise to a measure of acuteness, inflexibility and persistency, before which the darkest problems in jurisprudence become as luminous as the electric flame, and the thickest veil which crime can weave is transformed into a web of gossamer. In a word, when he is under the spell of that *guadentia certaminis* which is ever a source of inspiration to minds of the heroic cast, the sleuth-hound is not more sagacious in detecting blood, and tracing it to its source, than is Brouardel in discovering crime and in hunting down its perpetrators. It is claimed by his friends that in all his varied experience in this regard, he has never made a faulty diagnosis, and that his skill in unraveling the complicated threads of guilty motives is only surpassed by his intimate acquaintance with the facts and principles which constitute the domain of his special department of medicine.

What a valuable lesson might be learned by our legislators from this brief reference to Brouardel's labors for France! What an admirable thing it would be if, in the interests alike of science and of justice, there were appointed in every State of the Union a reliable official expert! What a contrast is exhibited in this connection between the systems of the two countries, or rather between the system of one and the want of system of the other! Here, medical jurisprudence, elevated to the dignity of a science and to the rôle of a specialty, is confided to the direction of one of the ablest and most experienced medical men of the country. There, legal medicine is scarcely given a place in the curriculum of a medical school, and when questions concerning it really present themselves, experts are extemporized from the tyros of the profession, and placed upon the stand to testify but too often according to the suggestions of cupidity or the dictates of prejudice. Our courts of law, instead of being temples of justice, are transformed into gladiatorial arenas for combats between rival practitioners, or opposing medical schools, and the discussion and elucidation of the great problems appertaining to medical jurisprudence are subordinated to mere theatrical exhibitions having in view the triumph of professional ends and the advancement of personal interests. If I could only be permitted to hope that this *exposé* of the situation in which American justice finds itself placed, in consequence of the defects of the practice of introducing inexpert experts for the determination of medico-legal questions, would eventuate in the taking of a single step towards the substitution of such a system as prevails in France under the direction of Brouardel, I should feel better compensated than if I had determined the election of president, or settled any political question which divides the country. I should feel that I had not only accomplished a most important work, so far as public jurisprudence is concerned, but that I had removed a stigma from the profession which clouds its honor, cripples its usefulness, and covers it with perpetual ridicule.

I am very truly yours, etc.,

EDWARD WARREN (Bey), M.D., LL.D.

FLATONIA, TEXAS, July 4, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: Thank you very much for Rumbold's work. I have just finished reading it through carefully, and am much pleased with it. Some weeks ago I was in San Antonio, and I saw a copy of your journal in the office of every physician in the city that I called on. I read in your last number the article on "Empyema." Some three weeks before I operated on a young man who was apparently on the verge of the grave. I made the cut between the fifth and sixth ribs on right side. Drew off the pus. His fever and night sweats stopped in three days, and now he is fattening like a pig. This is a wonderful climate for wounds to heal in. Sometimes we can keep fresh meat for days without any salt. Just hanging it in the air. I send with this a photograph of a black girl (genuine negress), fourteen years old, that has been slowly turning white for several years. The artist makes the face look white, but that was owing to the reflection, as the light had to shine directly in her face. The white color is very white, perfectly smooth, and extends further under the chin than could be shown in the photograph. The lower lip is white; the rest of the face should be black. The girl's mother is living and seems quite healthy. Her father, she says, died several years ago of summer fever. The girl is well developed for her age, and seems quite healthy. There does not seem to be any evidence of scrofula.

Thanks for the article on puerperal fever, etc. If we only got that one article in the year it would be worth the price of your journal. Hoping I have not tired you by my long letter, and wishing you every success with your journal, I remain, very truly yours,

H. W. Tutwiler, M.D.

The S. D. Gross Professorship of Pathological Anatomy.

Philadelphia, 1884.

Dear Sir: Any editorial assistance which you can offer in your columns to the fund for the establishment of this professorship, by calling attention from time to time to its object and progress, will be greatly appreciated by the Committee.

Yours respectfully,

Richard J. Dunglison, Treasurer.

BIOGRAPHY.

Dr. Koch's Career.—An interesting sketch of the life of Robert Koch, the discoverer of the cholera germ, the man whose name is at present in everybody's mouth, appears in a recent number of the *Gartenlaube*. Dr. Koch, who is now 41 years old, is native a of the Hartz Mountain. In 1866 he took his M.D. degree. For the next six years he slowly and laboriously worked his way upward as assistant physician in out-of-the-way hospitals. Fortune did not smooth his road, and when in 1872 he got an appointment at Wollstein the struggle for existence had again to be fought for seven years. Under circumstances so unfavorable for scientific research he prosecuted his studies with a success which secured a worldwide recognition of his genius. His first distinction was won by the publication of the results of his quiet labor on the methods of the artificial dyeing of microscopic objects, especially of bacteria. By the general Public his discovery could not be appreciated, but those who understood the value of these researches in the prosecution of the study of bacteria knew that with it a new era had dawned for science. This conviction has been brilliantly confirmed. During the last five years he has succeeded in identifying the germs of cattle disease, of consumption, and of cholera. These discoveries are not incidental strokes of good luck, but the natural fruits of his own system of research. The significance of these discoveries is felt even by those who have no knowledge of medicine. Experiments in vaccination with the poisonous matter, experiments in disinfection in laboratories, wholesale experiments in the disappearance of epidemics—all these are but links in the chain, the last link of which, the destruction of the germ of the disease, is no more unattainable, but has become even probable. Honors have been conferred on Dr. Koch and his colleagues on coming home from India, the breeding-place of cholera. They have received titles and orders, to which, in honor of the personal danger of the voyage of discovery, were added such distinctions as otherwise are only conferred on soldiers. By addresses and banquets colleagues have honored them, and it is said that the new Professorship of Hygiene, at Berlin, will be given to Dr. Koch. In short, outward acknowledgments have been plentifully made to the modest, quiet scholar. Although the Germans call him theirs with pride, he will always remain what he is, universal, and he deserves to the full the honorable title of "benefactor of humanity."

Dr. Cæsar Henry Hawkins, the famous English surgeon, who had been Sergeant Surgeon to her Majesty Queen Victoria for a number of years, died in London July 21, at an advanced age. He was a son of the late Rev. Edward Hawkins, and a grandson of Sir Cæsar Hawkins, First Baronet, and formerly Sergeant Surgeon to George II. and George III. Dr. Hawkins was born near the close of the last century. After having served for a few years as lecturer on anatomy at the school in Great Windmill street, London, he was appointed surgeon to St. George's Hospital, where he lectured on surgery, and rapidly became known as one of the most learned practitioners of Great Britain. He held this position for 32 years, in the meantime becoming a trustee of the hospital, until 1861, when he resigned and was appointed consulting surgeon, a post which he filled until his death. He was also for several years an examiner in surgery at the University of London and a member of the Court of Examiners of the Royal College of Surgeons, of which he was twice elected president. In 1849 Dr. Hawkins was chosen to deliver the Hunterian oration before the College of Surgeons on an occasion when the late Prince Consort honored the college by his attendance. He also served at different times as President of the Royal Medical Society of England, the Royal Chirurgical, and the Royal Pathological Societies. On the death of Sir Benjamin Collins Brodie, Sergeant Surgeon to her Majesty, Dr. Hawkins was recognized as the foremost surgeon of Great Britain, and as such was appointed to fill the vacancy in the Queen's household. He was the author of a series of lectures on tumors, published in the *Medical Times and Gazette*, and furnished a great number of other valuable contributions to that publication, as well as to the *Lancet* and other medical journals.

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Uterus Perforated by the Serrated Spoon: Death.—At the New York Pathological Society was reported a case of submucous fibroid of the fundus uteri, the removal of which was attempted by an instrument heretofore considered safe, the serrated scoop. Great difficulty being experienced in inserting the spoon between the growth and the inner surface of the uterus, scissors were resorted to and the tumor cut away piecemeal. In this instance the fundus was perforated and caused intra-peritoneal hæmorrhage, and the woman died in twelve hours. At the autopsy the fundus and also the posterior uterine wall were found perforated. The operator was unaware at the moment of penetration that he had gone beyond the base of the tumor. Two similar cases had occurred in the hands of Dr. Thomas and Dr. Hunter, both patients dying.—*New York Medical Journal.*

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK COUNTY MEDICAL SOCIETY (DR. S. BARUCH).

DISCUSSION OF PAPER ON "THE PREVENTION OF PUERPERAL INFECTION."

I congratulate the society and the medical profession that at last a gentleman has appeared on the medical platform who does not sing the praises of prophylactic vaginal injection after normal labor. The over-active antiseptic prophylaxis recently brought forward by eminent authority stands unchallenged.

I address myself to one element of this antiseptic, and because I have contributed a paper to the *New York Medical Journal*, which will shortly appear, I will only briefly advert to it.

I rise to offer my unqualified condemnation of the practice of disturbing a parturient woman who presents no abnormal symptoms, twice daily or oftener, for the purpose of throwing into the vagina a 2 to 3 per cent. carbolized solution, with the intent of sterilizing the bacteria which are supposed to abound there and to be ready to light up the dreaded puerperal fever. I have not used vaginal injections after normal labor, except occasionally on the second day to insure entire removal of (supposed) stagnant lochia, or to neutralize their fetor, until I learned from my friend Dr. Wylie that they are useful in preventing puerperal infection. I had, up to that time, attended nearly nine hundred cases of labor, with but one death accompanied by a fever process, and the latter was probably rendered fatal by the mental depression resulting from the terrible stigma which this mother suffered on account of the illegitimacy of the child and the lowly origin of its father.

Since I adopted the practice of regularly injecting all cases in the puerperal condition, my experience has been unfortunate. I have observed six cases of fever of undoubted septic origin, developing from the fifth to the ninth day, for whose real cause I could not account until I had reasoned upon this singularly repeated experience, which was so different to that of my former practice.

The practice of injection after labor for prophylaxis has been prevalent in Germany for several years, but is gradually falling into disfavor. Max Runge has said that an epidemic of puerperal fever was kept up by it in Berlin, and ceased as soon as this meddling with the genital parts was abandoned.

Hofmeier, Fehling and Breisk have contributed valuable statistical evidence in favor of the abolition of injections after labor. My objections to them are based upon the following grounds: 1. The parturient woman is annoyed and disturbed by injections. 2. Recent adhesions of torn surfaces may be torn open by the rude passage of the tube and by the impact of a volume of water, opening new avenues for auto-infection. 3. Infecting material may be introduced into the genital tract upon the syringe tube, or with the air entering after the water has flowed out. 4. A stream may enter the patulous os and produce shock and collapse. All these and other results have been observed in hospital practice. The fate of carbolic acid as a germicide is sealed. At the last meeting of German naturalists and physicians in Freiburg, Kehrer read a paper on the value of sublimate injections during and after labor. He lauded corrosive sublimate, which had been introduced by Koch, very highly, but had experienced some cases of urticaria and one case of stomatitis in a patient who had formerly passed through a mercurial cure. He advises great care in using the syringe to avoid infectious germs inoculating the wounded genital canal. Corrosive sublimate is cheap and odorless, easily soluble, and in all respects superior to carbolic acid. The strength should be 1 to 2,000 or 1 to 4,000. It is injurious to instruments. Prochownik, of Hamburg, reported cases of slight ailments, such as eczema, and some cases of violent dysenteric attacks. Kuestner's observations were of special value. He found bacteria, of all kinds and phases of activity, both in normal and abnormal uterine secretions, obtained through a tube. After carbolized injections these micrococci and bacteria did not disappear; after sublimate injections, always.

Hugar and Kaltenbach had used corrosive sublimate extensively and exclusively during the past year, and they spoke approvingly. Hugar does not approve of meddling with genital tract after normal labor. I am glad to find that Dr. Garrigues has employed corrosive sublimate with such striking results. Whether antiseptics or germicides are used or not, I believe that in private practice simple cleanliness, executed with scrupulous care before during and after labor, would do all that can render it safe. But if we are determined to resort to antiseptics also, the plan recently introduced by Ehrendorfer of Spalth's clinic commends itself to me as the the simplest. He introduces, after all unnatural labor, after washing out the parts, a pencil consisting of 90 to 120 grains iodoform, and 15 grains each of gum arabic, glycerin and starch into the uterus. The same may be done in the vagina, it would seem, if one must meddle: the least meddlesome method of antiseptics.

REMARKS ON DR. PARTRIDGE'S PAPER IN OBSTETRIC SECTION OF THE ACADEMY OF MEDICINE, DECEMBER 27, 1883.

I would be glad to know if Dr. Mundé and the author resort to vaginal injections in the normal puerperal period. (The reply was in the affirmative.) As I have already put my views regarding the practice on record, I desire simply to reiterate my objections to it. My experience with it has been very unfavorable, after a careful trial. Cases of fever have been clearly attributable to these injections. But one point which I have not yet brought forward may not be devoid of interest to the section. It has been said that the genital tract after labor is in a condition of traumatism, the tissues forming the utero-vaginal canal have been bruised and lacerated, and that infection is prone to arise from these wounds, and for this reason it requires the same treatment as an operation wound located in any other portion of the body.

This is an undeniable fact. But what does the surgeon do after a traumatism inflicted by his knife? Does he wash the stump, for instance, with carbolized water twice daily; does he disturb the patient's comfort thus? No; he carefully cleanses the wound before and after operation by antiseptic irrigation; he puts all the wounded surfaces in opposition if possible, in order to place them into a perfectly quiescent condition; he introduces a drainage tube to carry away all secretions and exudations. Now he seals the wound by stitches, and applies an absorbent antiseptic dressing with a view to allow healing to go on uninterruptedly. Rest, drainage and antiseptic dressings are the arch upon which rests modern surgical treatment. Rest is secured by the drainage tube and antiseptic absorbents, which enable the surgeon to dispense with frequent dressings and their accompanying disturbance. Rest, therefore, is the keystone of the arch upon which modern surgeons have builded their triumphant achievements.

I desire to emphasize the fact that we would not be consistent in the light of modern surgery in regarding the utero-vaginal tract after labor as a traumatism, and treating it on principles which were the guides of the surgery of a recent past. The modern surgeon delights in a dressing which insures freedom from offensive discharge and absence of traumatic fever, and only when the latter indications demand it does he remove the dressings and resort to cleansing by syringe and antiseptic solution.

This is the course which should be followed by the modern obstetrician, and the deviation from the course, which is involved in the disturbance of the local wounds in vagina and cervix-uteri, has received my energetic condemnation. Moreover, as I have said on a former occasion, the healing processes are interrupted and new avenues for infection are opened. It is impossible to seal the vagina by an antiseptic dressing, but we can keep the external parts clean, and trust to the configuration of the vagina, aided by occasional rising in the upright position and by the contractile properties of its walls, to afford exit to the lochial flow at all times.

Vaginal injections for prophylaxis have now been abandoned in Germany, and I trust they will also be abandoned in this country after normal labors.

HARVEIAN SOCIETY OF LONDON. GEORGE P. FIELD, M.R.C.S., President, in the Chair.

SOME RECENT ADVANCES IN PELVIC SURGERY.

Mr. Lawson Tait briefly alluded to the history of abdominal section, and to the great advance inaugurated by Keith in the abandonment of the clamp. He compared the fate of certain recent operations to that of new remedies whose popularity was as short lived as it was excessive for a time. Too frequently, results were published too early. Primary results showed whether an operation was justifiable; late results alone could prove whether it was wholly satisfactory. During the last seven years great innovations had taken place in pelvic surgery, the most marked of all being the increased frequency of abdominal section, and its employment for purposes of diagnosis. The author pointed out the fallacy underlying elaborate diagnoses of intrapelvic disease made *per vaginam.* Such conditions as perimetritis, parametritis, pelvic cellulitis, etc., might be entirely incapable of being distinguished from each other in this way. In the author's series of operations, mere explorations did not exceed 3 per cent., exploration generally leading up to operation. The chief objection urged against such operations as removal of the uterine appendages, was to the effect that they sterilized and unsexed the patient. Matting together of the pelvic organs would produce sterility; and sexual intercourse could no more be tolerated where abscess of the ovary existed than acute retinitis could permit the reading of fine print. Passing to the subject of suppuration, the author commented upon the advantages of the treatment " from above " by free opening and drainage, in contrast with the method of aspiration *per vaginam,* which allowed matter to collect again. A consecutive series of fifty cases of abdominal sections, performed between March 30, 1879, and June 13, 1881, was submitted to the meeting. Three deaths had occurred in the series: one from scarlet fever, the other two from severe hæmorrhages from myomata. The cases operated fell into the following groups: 1, ovarian epilepsy; 2, pyosalpinx; 3, hydrosalpinx; 4, menorrhagia; 5, myoma; 6, chronic adhesions; 7, pelvic abscesses. In hydrosalpinx, somewhat troublesome adhesions had usually been encountered. In a case of intractable menorrhagia, the ovary was studded with numerous small cysts. The author adverted to the occasional development of insanity after removal of the appendages. Relief from the pains and from the nervous symptoms in chronic ovarian affections had generally followed immediately after the operation; but, in one case, complete relief had not been obtained until eight months had elapsed. Immediate stoppage of the menses was the usual result.

Dr. C. Godson remarked that swellings previously diagnosed as inflamed ovaries could no longer be accepted as such without hesitation; whilst, as regarded treatment, many such cases, under the ordinary methods, remained practically unrelieved. Dr. Godson entirely agreed with the author of the paper that it was impossible to define strictly the parametritis or perimetritis existing in a patient by examining her, both being frequently associated in the same case.

Mr. Knowsley Thornton would first take the points in which he agreed with Mr. Tait. His mind was fully made up as to antiseptics; but he believed in the value of Listerism as firmly as ever. He had not had the same numerical experience as Mr. Tait in the special cases under discussion, but he had now a list of thirty cases, and had not lost one patient. Mr. Tait had always laid much stress on the value of personal experience in operating; and, with a much less experience *plus* Listerism, he (Mr. Thornton) had a clean mortality bill, while Mr. Tait had, at any rate, a 6 per cent. mortality. Mr. Thornton agreed generally with Mr. Tait as to the difficulty of diagnosis. Mr. Thornton also agreed with Mr. Tait as to the impossibility of teaching how to operate in this class of cases, and as to the sterility following the operations, but not as to the sexual condition remaining unaffected. He had found that the great majority were entirely unsexed; and, putting aside rare cases of third ovary, he believed that it was purely a question of complete or incomplete removal of ovarian tissue. He had also met with insanity after ovariotomy and kindred operations, and had a case in point under his care. He also confirmed Mr. Tait's views as to menorrhagia in some cases being due to cysts in the ovary. He protested against the statement made by Mr. Tait, that the introduction of the ligature was due to Mr. Keith, though he deserved all credit for his brilliant work. Mr. Thornton claimed for himself a good share of whatever value attached to the general use of the short ligature. On the question of exploration, Mr. Thornton expressed the opinion that the doctrine might be and was often carried too far; and he asked Mr. Tait for an opinion on a case which he detailed, in which an exploratory operation was performed in a clear case of hepatic cancer. As an illustration of freedom from any risks which might be supposed to arise from strict Listerism in abdominal surgery, he had concluded two years' ovariotomy (73 cases) at the Samaritan Hospital without a single death. He could not understand Mr. Tait's results in abdominal section for pelvic abscess; when he had tried it after Mr. Tait first advocated it some years ago, he had failed to get a good result, which was, however, obtained by returning to the old practice of draining the sac *per vaginam.*

Dr. Bantock agreed generally with the views expressed in the paper. He was glad to find that the author agreed with him that the rupture of a hydrosalpinx should not be considered as a harmless accident. Even rupture of an ovarian cyst, though often disastrous, was sometimes unattended with any evil results. The claims of Tyler Smith to the earliest systematic use of the ligature had been forgotten by a previous speaker. He had known menstruation to return after the removal of the healthy ovaries and Fallopian tubes, of cirrhotic ovaries and obstructed tubes, and after double ovariotomy for cystic disease. In his experience, sexual desire was not destroyed by the removal of both ovaries.

Mr. Bryant spoke in support of the priority of Dr. Tyler Smith in using the ligature. As evidence of the persistence of sexual appetite, looseness of conduct, and a determination to marry, had been noted in a young woman two years after complete removal of the uterus, and of both ovaries. Cases of insanity, temporary and permanent, had come under his observation after the operation in question. Mr. Bryant considered that in intestinal obstruction a similar rule should obtain to that which guided surgeons in dealing with external hernia. The bladder had also obtained a share in the benefits accruing from exploratory methods.

Mr. Lawson Tait stated that acute melancholia was the type of insanity generally observed. He corroborated his statement as to the persistence of sexual feeling by citing an instance in which a uterine tumor and the appendages were completely removed in a woman, who married and was erotic. The continuance of menstruation in some cases, where every portion of the ovary had been excised, entirely negatived the theory as to an interdependence between menstruation and ovulation. In one of the fatal cases mentioned in the paper, death had occurred from the poison of scarlet fever, not owing to a lack of antiseptics, but in spite of every antiseptic precaution. The author had found more risk to life from the employment of carbolic acid than from its abandonment. An operator specially called to a case was often placed in a difficult position with regard to the performance of operations of doubtful promise. Thus, in a case which was detailed to the Society, he had been urged by the medical attendents to operate for the relief of a rotated ovarian tumor in spite of advanced symptoms, but the abdominal section revealed the presence of a large tumor of the kidney.—*British Medical Journal.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1.465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

Note.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

Centigrade.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

Reaumur.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

Instructions for the Use of the Urinary Test Papers, introduced by Dr. G. Oliver, for the Clinical Examination of the Urine at the Bedside. By Parke, Davis & Co., Detroit and New York City.

TESTS FOR SUGAR.

Two tests are furnished in this series: 1. Indigo carmine; 2. Picric acid. These reagents are both used in connection with sodium carbonate in the manner described under the individual heads following. The diagnosis of glycosuria may be made with certainty by means of these test papers, and an approximate estimation made of the quantity of sugar present. The presence of albumen and of uric acid in the urine does not interfere with either of these tests, which are capable of detecting the smallest quantities of sugar that can be considered pathological.

Indigo Carmine.—Mulder's Test for Sugar.—This is an exceedingly sensitive test for diabetic sugar, and its indications may be accepted as infallible. Place in a test tube 30 minims of water with an indigo and a sodium carbonate paper. Heat the tube gently until the indigo is dissolved. [The solution should be of only a pale blue color. A portion of one of the indigo papers may suffice, but the whole of the soda paper should be used.] Add to the blue solution from a pipette one drop of the urine to be tested, and keep the fluid at the boiling point, without, however, permitting active ebullition, for sixty seconds. If no change is produced, add a second drop of the urine, and heat once more. If any notable quantity of sugar is present, the fluid will be observed to change from pure blue to violet, then to purple and red, and finally will fade to a pale yellow. If there is only a trace of sugar, the color will merely change to one of the intermediate shades. Normal urine itself produces a reaction if added in sufficient quantity, 5 to 8 drops generally being sufficient to change the color to purple or red. If, however, no more than two drops of the urine are employed in the test, a change of color is proof that sugar is present in abnormal quantity. If the tube is agitated during the experiment so that the fluid is brought in contact with the oxygen of the air, the reaction is retarded. Indeed, the blue color of the solution may be momentarily restored even in presence of a large excess of sugar by vigorously shaking the tube, and the color can be discharged and restored repeatedly by the alternate action of the sugar and the oxygen of the air.

Quantitative Estimation of Sugar by Indigo Carmine.—The test papers may be made to yield approximate quantitative results, by observing that the color of 30 minims of a pale blue solution of indigo is changed to yellow by heating one minute with one minim of a urine containing ten grains of sugar to the fluid ounce, or by heating two minutes with one minim of a urine containing five grains to the fluid ounce. For exact work, it is necessary, of course, to have papers especially prepared, containing a definite quantity of the reagent, but a rough approximation to the truth may be based upon the statement just made, and information of great value may be thus obtained in observing the influence of remedies in a case of diabetes. If the quantity of sugar is smaller than that named, the change of color will be only partial, but exact quantitative estimations are of less importance in these cases than where the amount is more considerable. In case the urine contains more than ten grains of sugar to the fluid ounce, it will be necessary to dilute it until it is reduced to that strength. If four times its volume of water is required to effect this, the urine must contain $5 \times 10 = 50$ grains of sugar to the fluid ounce. The details of this method can be best worked out by each individual himself.

Picric Acid.—Dr. Geo. Johnson's Test for Sugar.—When an alkaline solution of picric acid is boiled with a little glucose, picramnic acid is formed, and the color of the solution changes to a garnet red. To apply the test to the urine, put in a test tube one of the picric acid papers with 20 minims of water and about 3 grains of sodium carbonate, add 10 minims of the urine and boil sixty seconds if necessary. The color of the mixture always darkens perceptibly, but if sugar is present the change is much more prompt and decided than in the case of normal urine. If the color changes rapidly to a dark red, repeat the experiment with 5, 3 and 1 minim successively, to form an approximate estimate of the quantity of sugar present. If one minim gives a strong reaction, dilute the urine until a single minim of the dilute fluid gives only a deep amber color, with a distinct shade, however, of red. In a diluted urine this reaction will indicate the presence of about one grain of sugar to the fluid ounce. About the same shade of color is generally produced by two minims of a normal urine, so that there should be deducted from the result obtained about half a grain to the fluid ounce, as "normal sugar." This test should always be confirmed by the indigo carmine test, since there are other substances than sugar—notably kreatinine—which reacts like glucose with picric acid.

Comparative Value of Tests for Sugar in the Urine.—The copper test, which is commonly employed, is perhaps the least trustworthy of all the tests for glucose. Among the normal constituents of the urine, uric acid is capable of reducing copper compounds, and numerous substances which may be accidently present have a similar action. Kreatinine and many other organic compounds prevent or retard the precipitation of small quantities of cuprous oxide, so that urine containing less than one grain of sugar to the fluid ounce fails to respond to the copper test, or gives an indication only after half an hour or a longer time. Picric acid is an exceedingly sensitive reagent for the detection of sugar, but a larger amount of alkali must be used than can be put in the form of a test paper, so that a supplementary supply of the alkali must be carried in the pocket case, if the test is to be used at the bedside. The reagent is not affected by uric acid, nor by most of the substances occasionally present in the urine which reduce copper. It does react, however, with kreatinine present in normal urine, and with ferrous salts, tannin, and inosite, which occasionally occur in the secretion. Normal urine always shows a distinct reaction, as though it contained as much as one-half grain in the fluid ounce of glucose. Indigo is not affected by any known normal constituents of the urine. Since normal urine always produces a reaction with it, we must conclude either that glucose (or inosite) is constantly present in urine in small quantities, or else that there is a constituent constantly present which has a similar action, but is as yet unknown. Of the possible accidental constituents of the urine, only ferrous salts and tannic acid affect indigo, so that we may regard this test as not only the most sensitive, practically, of any yet proposed, but as practically free from fallacies. Finally, unlike the copper test, indigo carmine can be preserved unchanged for years, especially in the convenient form of these test papers.

ALBUMEN TESTS.

Four different reagents for albumen are furnished in this series of test papers: 1. Potassio mercuric iodide; 2. Sodium tungstate; 3. Potassium ferrocyanide; 4. Picric acid. These reagents are all used in connection with citric acid. Put into a test tube 30 minims of the urine with a citric acid paper (or if the specimen be alkaline, more than one acid paper) and allow a few moments for the acid to become dissolved. If a cloudiness is produced by the acid, it is due to mucin, or uric acid, or rarely to oleo resin, as where balsam copaiba has been taken medicinally. The urates dissolve on warming the urine, mucin remains, being distinguished by this behavior from any other constituent of the urine. The oleo resinous precipitate clears up by boiling, but quickly returns while the urine is yet warm. After observing the effect of the acid alone, add the albumen precipitant—one of the four named above. As the reagent dissolves, albumen, if present, is precipitated in the form of a distinct cloud, soon resolving itself into flakes. If any cloudiness is produced, the urine must be heated, when, if the reaction is due to albumen, the precipitate remains undissolved. A precipitate cleared up by heat may consist of peptones, or of compounds of vegetable alkaloids. If a very large quantity of albumen be present, it may happen that the paper will become coated with the precipitate which forms instantaneously on its surface, and no cloudiness appears in the urine.

Such a contingency could very rarely occur, and application of heat would be sure to reveal the presence of the albumen. Another method of using the papers is thus described by Dr. Oliver: "Those who prefer to develop a zone of precipitation along the plane of contact of a test solution and the urine can do so with these papers as follows: Put the reagent paper with 15 minims of water into one test tube, and a similar quantity of the urine with a citric acid paper into another. When the reagent is dissolved, a portion of the solution is taken up with a pipette and allowed to trickle down the side of the tube, in which it will either glide over the urine, or collect below it." Dr. S. C. Smith, of Halifax, suggests as a still better way to bend the papers into a circle so as to fit the inside of the test tube, and push them down, say within an inch of the bottom of the tube, which is then to be filled with the urine. If albumen be present, the whole of the urine below the papers becomes opaque, while that above them remains transparent and unchanged. The advantage of observing separately the effect of the citric acid is, however, lost in this mode of applying the tests.

Potassio Mercuric Iodide.—This is the most sensitive of all the tests for albumen, and in general should be the first test tried, since if this fails albumen is surely absent. The reagent precipitates peptones and vegetable alkaloids; the precipitate of peptones is cleared up by heat, but returns as the urine cools. The precipitate of alkaloids forms a diffused cloudiness which does not break up into flocculi. On applying heat, it clears up, and it is soluble also in alcohol. In case albumen and alkaloids are present together, the fluid will partially clear on heating.

Sodium Tungstate.—This reagent will detect one part of albumen in 20,000 of urine; it is, therefore, nearly as sensitive as the potassio mercuric iodide. It has the advantage over the latter that it does not precipitate alkaloids. It does, however, precipitate peptones, the precipitate redissolving on applying heat.

Picric Acid.—This test equals in sensitiveness that just named, and has this advantage, that it may be used to detect either sugar or albumen. It precipitates, like the potassio mercuric iodide, peptones and vegetable alkaloids, and also throws down oleo resins, and occasionally uric acid. The discrimination of the albuminous precipitate is, however, made with certainty by the application of heat, which dissipates all other precipitates.

Potassium Ferrocyanide.—This test is less sensitive than the others in the series, but is capable of detecting albumen when present in the proportion of one part in 12,000 of fluid. It is therefore comparable in the range of its indications with nitric acid. It does not precipitate peptones or the vegetable alkaloids which one is likely to meet with in the urine. It is therefore not liable to lead to false conclusions in the hands of careless observers, and it is selected on this account by Dr. Oliver as likely to be of the most service to medical men who have not had much experience in applying chemical tests.

Quantitative Estimation of Albumen by the Method of Dr. Oliver.—Twenty minims of the urine are placed in the smaller test tube, a mercuric and a citric acid paper introduced into it, and the tube is shaken during one minute, so that the whole of the albumen is precipitated. The opacity produced in the fluid is directly proportional to the quantity of albumen present, and this is determined by the aid of the printed test lines which are provided for the purpose. The fine lines are just discernable when the urine contains 1-10 per cent. of albumen. The dark lines are rendered indistinct if there is more than 0.2 per cent. present. If the fine lines are not distinguishable, add water, a little at a time, until they can just be discerned through the centre of the tube. If it require five times the original volume of the urine to reduce the opacity to this extent, the urine contains 5 x 0.1 per cent., *i.e.*, one half of one per cent. If the quantity of albumen is greater than this it is best to dilute a portion of it 2, 4, or 8 times with pure water before precipitating the albumen, and multiply the result obtained by the factor representing the degree of dilution of the urine.

COLOR SCALE.

In describing the color of a specimen of urine, it is desirable that there should be uniformity in the designations given to the various shades. We have therefore reproduced Dr. Vogel's scale of tints.* The advantage of having such a color scale at hand at the moment of making the examination will be at once apparent.

Specific Gravity Beads.—The ordinary urinometer is too fragile an instrument to be carried safely in the pocket. In place of it we furnish with this series of tests a set of specific gravity beads, marked respectively 5, 10, 15, 20, 25 and 30, the figures being the last two of the specific gravities, water being 1,000. The beads are dropped into some of the urine (about 2 fluid drachms) in the larger test tube. If three of them float the specific gravity is between 1.015 and 1.020. If all float it is above 1.030. If all sink, it is below 1.005. The exact density can be determined by adding water, drop by drop, from a graduated pipette until one more bead sinks. The water must of course be made to mix thoroughly with the urine after each addition. Suppose by the addition of 20 minims of water one out of three beads which had remained floating is made to sink, or rather, to come to a state of indifferent equilibrium; then 120 : 120+20 : : 15 : +. The value of + therefore is 17.5 and the specific gravity of the urine 1.0175. Rule. Multiply the figure on the bead which is made to sink by the total amount of fluid, water and urine, and divide the product by the amount of urine, the quantity being expressed in minims. The temperature of the urine must be about 60° Fahr. (15.6° C.) If higher than this, to obtain an exact result, add to the figure obtained one unit for every 8° F. (4.5° C.) in excess of the standard temperature. Ordinarily it is sufficient to observe how many of the beads float; the exact specific gravity is of importance only when the whole amount of urine voided during 24 hours is examined; for clinical purposes a rough approximation is all that is generally necessary, and this is all, moreover, that the ordinary urinometer as commonly used affords. If all the beads float, dilute the urine with an equal volume of water, take the specific gravity of the mixture, and multiply the fractional portion of the figure obtained by two.

How to Prepare a 1 to 1,000 Solution of Corrosive Sublimate.—Sir Joseph Lister writes to the *British Medical Journal* (May 24, 1884) that one drachm by weight of a solution of one part of corrosive sublimate in one and a half parts of glycerin contains two-fifths its weight, or twenty-four grains of the sublimate. This, multiplied by 1,000 (the proportion of water required), gives 24,000 grains which is very nearly three pints. It is, however, much more convenient to use fluid measure than weight, and a fluid drachm of the glycerin solution referred to requires four pints of water to produce the 1 to 1,000 solution.—*Medical News.*

Chloral Hydrate as a Vesicant.—Powdered chloral sprinkled on adhesive plaster and melted by a gentle heat (not more than enough to cause the plaster to adhere to the flesh) is applied while warm to the part where the blister is wanted; within a few minutes a gentle heat is felt, increasing in intensity for a short time, then gradually easing off, and at the end of about ten minutes the part is free from pain. At the expiration of this time, or as soon as the pain has subsided, the plaster, if removed, will disclose a surface as effectually blistered as by a cantharidal plaster after six hours. Thus, within about ten minutes the work of an old-fashioned blister is accomplished, with many advantages over the latter—1, rapidity of action; 2, the ease of application; 3, the non-occurrence of strangury, and 4, further, it may never be taken off to have the blister dressed, but may be allowed to remain until the plaster loosens and comes off itself, the blistered surface in the meanwhile healing kindly.—*A. M. Fauntleroy, M.D., in the Southern Clinic.*

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* This beautiful scale can be obtained by writing to Parke, Davis & Co., Detroit, Michigan.

ROOSEVELT HOSPITAL FORMULÆ.—DIARRHŒA MIXTURES.

Nitric Acid.

℞. Nitric acid	♏ xx.
Tinct. opium	♏ viiss.
Tinct. camphor	♏ viiss.
Comp. syr. rhubarb	ʒ j.
Syr. ginger	ʒ j.
Water, s. q.	℥ j.

M. Dose, ℥ j.

Kino and Opium. (Dysentery.)

℞. Tinct. kino	♏ xx.
Tinct. catechu	♏ xx.
Tinct. opium	♏ xv.
Tinct. capsicum	♏ v.

M. Dose, ʒ j (in water).

Bismuth and Soda.

℞. Sub. nit. bismuth	grs. iij.
Bicarb. soda	grs. ij.
Peppermint water	ʒ ss.
Chalk mixture, s. q.	ʒ ij.

M. Dose, ʒ ij.

Opium and Acid.

℞. Co. sol. opium, Squibb's	♏ x.
Arom. sulph. acid	♏ x.
Water, s. q.	ʒ ij.

M. Dose, ʒ ij.

Compound Bismuth.

℞. Camph. tinct. opium	♏ x.
Subnit. bismuth	grs. x.
Chalk mixture, s. q.	ʒ ij.

M. Dose, ʒ ij. as directed. Shake.

Compound Chalk.

℞. Camph. tinct. opium	♏ v.
Tinct. krameria	♏ v.
Comp. spirits lavend.	♏ ij.
Chalk mixture, s. q.	ʒ j.

M. Dose, ʒ j. as directed. Shake.

Aromatic Rhubarb.

℞. Powd. bicarb. soda	grs. ij.
Aromatic syr. rhubarb	♏ xx.
Syrup ipecac	gtt. v.
Glycerine	ʒ ss.
Cinnamon water, s. q.	ʒ j.

M. Dose, ʒ j.

Chalk and Catechu.

℞. Tinct. opium	♏ viiss.
Chalk mixture	ʒ j.
Tinct. catechu, s. q.	ʒ ij.

M. Dose, ʒ ij. as directed. Shake.

Coto.

℞. Fl. ex. coto bark	♏ ij.
Glycerine	ʒ ss.
Water, s. q.	ʒ j.

M. Dose, ʒ j.

West.

℞. Castor oil	ʒ j.
Powd. acacia	grs. xx.
Sugar	ʒ ss.
Tinct. opium	♏ iv.
Spirits nutmeg	♏ xx.
Orange flower water	ʒ xj.

M. Dose, ʒ j.

REMEDY FOR RHUS POISONING (T. S. WIEGAND).—As this is the season when many persons are making excursions into the country, it is to be expected that there will be many who will suffer from poison contracted by contact with the poison oak. Various remedies have been employed to relieve the suffering thus occasioned, but while one remedy is advantageous to some persons it utterly fails with others. Having learned of a great number of cases in which fluid extract of serpentaria has been used with remarkable success, I thought it would be well to communicate the fact to your journal, as I have never seen it noticed in medical or pharmaceutical journals. It is best applied by placing cloths moistened with the extract upon the affected parts, without any friction. Two or three applications generally effect a cure.

REVIEWS.

AUSCULTATION, PERCUSSION AND URINALYSIS.—An Epitome of the Physical Signs of the Throat, Lungs, Liver, Kidney and Spleen in Health and Disease. Edited by C. HENRI LEONARD, A.M., M.D. Fully illustrated, 16mo. Pp. 166. Price, $1. Issued by the Illustrated Medical Journal Co., Detroit, Mich.

This is a convenient and very brief epitome of the physical signs indicated. It is, however, too brief. The signs mentioned cannot be sufficiently understood to be remembered, unless the natural philosophy of them be elucidated and explained. Any teacher must have felt how hopeless it is to attempt to teach the science of auscultation and percussion by appealing only to the memory, while failing to explain the cause of every sign to be remembered.

There are very many signs that have been omitted in this little book, and the very elements of sound have not been enumerated.

No one can compress into a few pages a great science which admitted masters are unable to teach unless by careful and elaborate detail. That the author of this book has been unable to do what no one has done or can do is not surprising, but the fact is nevertheless very apparent to any one who has learned or taught thoroughly the science of auscultation and percussion. He has done careful work, but it is incomplete in scope and detail. Urinalysis should be uronalysis.

POST-NASAL CATARRH AND DISEASES OF THE NOSE CAUSING DEAFNESS. By EDWARD WOKES, M.D., Senior Aural Surgeon and Lecturer on Diseases of the Ear, London Hospital; Senior Surgeon, Hospital for Diseases of the Throat, London. Illustrated with wood engravings. Philadelphia: P. Blakiston, Sons & Co. 1884.

While this work is not so costly and not so voluminous as that of Mackenzie, it is, for the general practitioner, equally valuable. There are few physicians who can, in these days, remain with safety ignorant of these important subjects. Nasal catarrh, and diseases of the nose causing deafness, are, or ought to be, as scientifically and as correctly treated as are pneumonia or bronchitis. Ten years ago they were sent to the specialist; but this is no longer the case, and the general practitioner who cannot treat them correctly will be justly classed among the old fogies and routinists: he will be unworthy of being ranked even with the average practitioners of the present day. Every one must have such volumes, and this one is eminently deserving of confidence. It is well issued, and the engravings are unusually good.

HEALTH AND HOW TO PROMOTE IT FROM INFANCY TO ADVANCED AGE. By RICHARD McSHERRY, M.D., Professor of Principles and Practice of Medicine, University of Maryland, etc. Second edition. New York: D. Appleton & Co. 1884.

This work, while it contains nothing new, very fairly represents the facts generally known to the average practitioner. It presents them agreeably and intelligently, and it is written in a pleasant and easy manner. The author has paid much attention to the subject, and has written very many useful papers on such topics.

LIFE OF DR. J. MARION SIMS. By W. GILL WYLIE, N. Y.

This is a reprint from the *New York Medical Journal.* The author enjoyed, very justly, exceptional opportunities for knowing intimately the distinguished physician whose life he has recorded. It is a very just and handsome tribute; exceedingly well written, interesting, and furnishing many facts and incidents not hitherto placed before the Public. The only regret of the reader will be that the life is not longer and more elaborate; as it is, no one can examine it without commending the good taste, sound judgment and warm heart of the author.

MEDICAL ANNALS OF BALTIMORE FROM 1608 TO 1880, INCLUDING EVENTS, MEN AND LITERATURE; TO WHICH IS ADDED A SUBJECT INDEX AND RECORD OF PUBLIC SERVICES. By JOHN R. QUINAN, M.D., Member of Medical and Chirurgical Faculty of Maryland. Prepared at the Request of the Medical and Chirurgical Faculty of Maryland as a Memorial Volume in Honor of the Sesqui-Centennial of Baltimore, October, 1880. Press of Isaac Friedenwald. 1884. 8vo., pp. 275.

This work is a monument of care, pertinacity and local antiquarian lore. While from its scope it has but little interest for the general medical Public, it still has its uses and will always be prized in Maryland as a reliable and valuable guide. It is exceedingly creditable to its author and to all concerned in its origination and execution.

A COUNTRY DOCTOR. By SARAH ORNE JEWETT. Boston: Houghton, Mifflin & Co.

One hardly knows whether to call this thoughtful work a romance or a study, for it partakes somewhat of the character of each; but what one can most particularly appreciate is the charm of the book itself, and those fine delineations of the manners, habits and ways of thought of New England people. Physicians themselves not given to read outside of their professional text books might study this story with advantage. The author has much to say in regard to that "haphazard way of doctoring in which the health of the patient is secondary to the promotion of new theories, and the young scholar who could write a puzzling technical paper too often outranked the old practitioner, who conquered some malignant disorder single-handed."

A DOUBLE LIFE; OR, STARR CROSS. A Hypnotic Romance. By HERBERT E. CHASE. New York: S. W. Green's Son.

Starr Cross, the son of Prof. Barlow, is a very extraordinary young man. Early in life, at the age of 14, he takes a dog, grafts on its head rabbit's ears, and adds as an appendage a horse's tail. With all these additions the dog lives and prospers. As a vivisectionist in his teens, many other extraordinary things are accomplished by the lad, principally with dogs. He takes two dogs, connects their pulmonary veins, feeds one and not the other. At last he arrives at this conclusion: "There is no saving both; the other dog eats enough for two." "A Double Life" is a very wild book indeed. As a specimen of unwholesome literature, "A Double Life" may be taken as a type.

STUDENT'S MANUAL OF DISEASES OF THE NOSE AND THROAT. By J. M. W. KITCHEN, M.D., New York. Cloth, 12mo., pp. 127. G. P. Putnam's Sons.

This is a very poor work in every respect. It is incomplete; superficial; inaccurate. It is one of those born to die early, and the sooner the better.

A GUIDE TO AMERICAN MEDICAL STUDENTS IN EUROPE. By HENRY HUN, M.D. New York: Wm. Wood & Co. Cloth, 8vo., pp. 151.

A very useful book. Full of facts and desirable information. It is well for all going abroad or now abroad to have a copy of it.

A TREATISE ON SYPHILIS IN NEW-BORN CHILDREN AND INFANTS AT THE BREAST. By P. DIDAY. Translated by G. WHITLEY, M.D. With Notes and Appendix by F. R. STURGIS, M.D. Cloth, 8vo., pp. 310. New York: William Wood & Co., 1883.

The arrangement of this book is excellent, and shows method and care. The different subjects are presented in the following order: Etiology; semeiology; prognosis; medico-legal relations; treatment. Diday's book was first translated by the Sydenham Society more than a hundred years ago, but this translation is very good, and the author has had the opportunity of noting many changes in the teachings of prominent authorities. It is a useful and excellent book.

ON THE RELATIONS OF MICRO-ORGANISMS TO DISEASE. By WM. T. BELFIELD, M.D., Lecturer on Pathology and on Genito-Urinary Diseases (Post-Graduate Course) Rush Medical College, Chicago. Reprinted from the *Medical Record*. Cloth, 12mo., pp. 131. Chicago: W. T. Keener. 1883.

This work is really a reproduction of the Cartwright Lectures by the author. The bacteria questions are presented with care, and with none of that dogmatism and claims of superior wisdom affected by so many who see so much more at the end of a microscope than can be seen by others; a great deal more, in fact, than is there located. It is a philosophical and fair presentment of the subjects.

THE ANNUAL REPORT OF THE LOUISIANA STATE BOARD OF HEALTH.

It is to be regretted that it is impossible to give a just notice of this very voluminous and valuable report. It covers a vast area of subjects and statistics, and is another monument of the indefatigable industry and varied accomplishments of its versatile and accomplished author, Dr. Joseph Jones, of New Orleans. He has retired from the field which he cultivated so handsomely and endowed so munificently; a field from which he has given to the Public such prolific and valuable harvests. He retires with very many laurels, justly and handsomely won in a cause second to none in importance and value. May he wear always his laurels as justly and as fairly as he has won them, and that he will do so none acquainted with him can doubt for a moment.

CATALOGUES OF MEDICAL SCHOOLS.—Medical Department, University of Louisville; Louisville Medical College; Bellevue; Buffalo Medical College; Medical Department, University N. Y.; College Physicians and Surgeons, N. Y.; Jefferson Medical College; Medical Department, University Pa.; Ohio Medical College; St. Louis Medical College; Missouri Medical College; Miami Medical College; Medical Department, University Md.; Harvard; Medical Department, University La.

BOOKS AND PAMPHLETS RECEIVED.

THE PROCEEDINGS OF THE NAVAL MEDICAL SOCIETY, Washington, D. C.

SCARLATINA PUERPERALIS. By Samuel C. Busey, M.D., Washington, D. C.

DETERIORATION OF THE PURITAN STOCK AND ITS CAUSES. By John Ellis, M.D., New York.

ANNUAL ANNOUNCEMENT OF COOPER MEDICAL COLLEGE, San Francisco. Session of 1884.

IODOFORM IN DENTAL SURGERY. By C. F. W. Boedecker, D.D.S., M.D.S., of New York.

HISTORY OF THE DISCOVERY OF THE CIRCULATION OF THE BLOOD. By Henry C. Chapman, M.D., Philadelphia.

DIAGNOSIS OF SPINAL DISEASE, AND OBSERVATIONS ON HIP DISEASE. By Thomas P. Grant, M.D., of Louisville, Ky.

ANEURISM OF THE FEMORAL ARTERY AND A KNIFE WOUND OF THE INTESTINES. By W. O. Roberts, M.D., Louisville, Ky.

LESIONS IN LONGEVITY: PARAGRAPHS ON HOME HYGIENE AND THE ART OF PROLONGING LIFE. By John B. Hamilton, M.D.

REPORT OF PROCEEDINGS OF THE TENNESSEE STATE BOARD OF HEALTH, QUARTERLY MEETING, Nashville, April 1 and 2, 1884.

EYE SYMPTOMS AND CONDITIONS IN BRIGHT'S DISEASE. Read December 19, 1883, by Wm. S. Little, M.D., Philadelphia, Pa.

CASE OF PULSATING LIVER. By Walter G. Smith, M.D. Reprint from the *Journal of Medical Science*, January, 1884.

THE ELEVENTH REGULAR REPORT OF THE MEDICAL AND SURGICAL STAFF OF ST. FRANCIS' HOSPITAL, JERSEY CITY, N. J., FOR THE YEAR 1883.

THE DISEASE OF INEBRIETY AND ITS SOCIAL SCIENCE RELATIONS. By T. D. Crothers, M.D., Boston. Reprint from *Journal of Social Science.*

THIRTIETH REPORT UPON THE BIRTHS, MARRIAGES AND DEATHS IN THE STATE OF RHODE ISLAND, FOR THE YEAR ENDING DECEMBER 31, 1882. Prepared by Charles H. Fisher, M.D.

ARREST OF DEVELOPMENT CAUSED BY INTRA-UTERINE PRESSURE. By H. F. Hendrix, M.D., St. Louis.

SYPHILITIC TEETH. From the French of Alfred Fournier. Translated for the Dental Cosmos by J. William White, M.D., Philadelphia.

BORO-GLYCERIDE IN THE TREATMENT OF CONJUNCTIVITIS TRACHOMATOSA (Arlt); OPHTHALMIA CONTAGIOSA OF ASYLUMS. By Charles S. Turnbull, M.D.

THE PHYSIOLOGY OF DIGESTION, WITH REFERENCE TO THE TREATMENT OF ITS FUNCTIONAL DISORDERS. By M. H. Lackersteen, M.A., M.D., LL.D., etc.

POLYPUS BY VOLTOLINI'S METHOD. By Walter G. Smith, M.D. Reprint from the "Transactions of the Academy of Medicine in Ireland."

TWELFTH ANNUAL REPORT OF THE FRANKLIN REFORMATORY HOME FOR INEBRIATES, OF PHILADELPHIA. Located at 911, 913 and 915 Locust Street.

ANNUAL ADDRESS, DELIVERED BEFORE THE AMERICAN ACADEMY OF MEDICINE, AT NEW YORK, October 10, 1883. By Henry O. Marcy, A.M., M.D.

TWENTY-FOURTH ANNUAL REPORT OF THE SUPERINTENDENT OF THE STATE ASYLUM FOR INSANE CRIMINALS, AUBURN, N. Y., FOR THE YEAR ENDING SEPTEMBER 30, 1883.

NEUROLOGICAL SPECIALISM. Presidential Address, Delivered at the Annual Meeting of the New York Neurological Society, May 1, 1883, by W. J. Norton, M.D., New York.

ADDRESS OF WELCOME TO THE AMERICAN MEDICAL ASSOCIATION, FOR THE MEETING OF 1884, BY THE CHAIRMAN OF THE COMMITTEE OF ARRANGEMENTS, DR. A. Y. P. GARNETT. Reprint from "Transactions of the Association."

CATALOGUE OF MEMBERS OF THE MEDICAL PROFESSION IN THE STATE OF NEW YORK, SHOWING THEIR VOTE ON THE CODE OF ETHICS. Corrected edition. Published by the Central Organization of the New York State Medical Association to uphold the National Code of Ethics.

MISCELLANEOUS.

SPONTANEOUS FRACTURE OF VESICAL CALCULI.—In a paper with the above title, read before the Section on Surgery and Anatomy, American Medical Association, the author, Dr. J. W. G. Gouley, presented a specimen of a calculus which had undergone a spontaneous fracture in the bladder.

EXTREMELY FRAGILE BONES.—A peculiar disease afflicts the wife of an Episcopal minister now residing in a small town in Minnesota, near the Wisconsin line. The minister is well known over the Northwest, and the facts here narrated were given by the reverend gentleman himself. A dozen or so years ago he married a wealthy young lady of the little Minnesota town, and has resided there much of the time since. Last year he took charge of a church on the Connecticut seacoast, hoping the change of air and scene might benefit the condition of his well-nigh helpless wife. The hoped-for benefits did not result, and a little while ago the couple returned to their old home. The gentleman's wife is afflicted with what is known in common English as "fragile bones." All of the bones in her body are gradually turning to a substance resembling hard chalk. Several years ago an acquaintance, in helping her out of a carriage, broke her collar bone. As soon as it had healed, one of her arms broke while some one was assisting her from a vehicle. A little later the other arm dropped helpless at her side when she attempted to make some use of it. After a great deal of trouble both of the fractures were reduced, but in a little while one of her arms was broken in another place, the last time caused by the sufferer merely lifting a sugar bowl. Thus matters have run along for several years, the unfortunate woman breaking one of her limbs every little while. The disease is gradually spreading, and is now reducing the bones of her legs to chalk. The greatest care is exercised to prevent the sufferer making use of her limbs. She is carefully lifted about, and is moved around in an invalid's chair. Physicians say, if she should fall from her chair or have an unusual shock, all the bones in her body, from her knees up, would snap into small fragments, and of course her death would ensue. The case has attracted unusual attention among doctors, and many of the most prominent physicians in different parts of the country have been called to attend the sufferer. They all unite in pronouncing the case hopeless, and can suggest no remedy. There are comparatively few cases of the same kind on record. The one in question is said to be the most prominently developed of any of the cases recorded. Fragile bones are caused by an absence of animal matter. The cause of the disease has never been discovered. The afflicted lady, in all other respects, is apparently enjoying the best of health. It is said that death usually results in one year, but in this instance the disease has been fully developed for over six years.—*Secular Exchange.*

Preservation of Dead Bodies.—Edward I., who died in 1307, was found not decayed 463 years subsequently. The flesh on the face was a little wasted, but not putrid. The body of Canute, who died in 1017, was found fresh in 1766. That of William the Conqueror and his wife were perfect in 1522. In 1569 three Roman soldiers, in the dress of their country, fully equipped with arms, were dug out of a peat-moss near Aberdeen. They were quite fresh and plump after a lapse of about fifteen hundred years. In 1717 the bodies of Lady Kilsyth and her infant were emboweled and embalmed. In 1796 they were found as perfect as in the hour they were entombed. Every feature and every limb was full. The infant's features were as composed as if he had only been asleep for eighty years. His color was as fresh and his flesh as plump and full as in the perfect glow of health; the smile of infancy and innocency was on his lips. At a little distance it was difficult to distinguish whether Lady Kilsyth was alive or dead.

At a recent meeting of the Philadelphia County Medical Society, Dr. Carl Seiler called attention to the value of tincture of benzoin in the treatment of chapped hands and frosted feet. He has used it in a number of cases with much success. It is applied by simply painting it on the skin. The stocking may be prevented from sticking to the feet by rubbing some oil over the benzoin.—*Polyclinic.*

A Caution Concerning Chloroform and Strychnine.—Dr. E. Garraway writes to the *British Medical Journal* that a prescription calling for a fluid drachm of solution of sulphate of strychnine, three fluid drachms of spirit of chloroform, and water enough to make a fluid ounce and a half, was put up for a lady, with directions that a teaspoonful was to be taken three times a day in water. On taking the final dose, which tasted unusually hot, the patient was seized with spasmodic contraction of the extensors of the feet and legs, which soon passed off, although alarming at the time. On his being shown the bottle, a drop or two of water was seen remaining in it, and beneath this a globule of chloroform which proved to be highly charged with strychnine. His explanation is that more chloroform was ordered than the water would take up, and the surplus, being a ready solvent of sulphate of strychnine, took up a large amount of the salt and fell to the bottom.

Pine Extract for Bathing.—It has long been recognized that the atmosphere of pine forests has an invigorating and beneficial effect upon people with weak constitutions and suffering from pulmonary disorders. At some of the watering places of Germany the very simple prescription of the physician is that the patient should spend several hours a day walking or riding through the pine wood. This simple treatment is sometimes supplemented by the taking of pine baths, and in the case of kidney diseases and for delicate children this is claimed to be highly beneficial. The bath is prepared by simply pouring into the water about half a tumblerful of an extract made from the fresh needles of the pine. This extract is dark in color and closely resembles molasses in consistency, and when poured into the bath gives the water a muddy appearance with a slight foam on the surface. The repugnance one feels to enter into such a muddy-looking fluid is dispelled as soon as the delightful aroma which arises from the bath is inhaled. Although there may be some doubt whether pine baths act upon the system in any other wise than as a tonic, still, as an adjunct to the daily bath, infusion of the pine extract induces a most agreeable sensation. It gives the skin a deliciously soft and silky feeling, and the effect upon the nerves is quieting. It is a matter of some surprise to us that the business of manufacturing and bottling the extract for private use and public bathing establishments has not been tried in this country, where pine forests abound so extensively. The extract, when properly bottled and securely corked, will not deteriorate for a long time, and the cost for gathering the pine needles and extracting their tarry substance would not be very great, while the demand for it would likely increase to large proportions when the public became accustomed to its use.—*Scientific American.*

The Sweating Sickness.—The sweating sickness first visited England in 1483, and repeated its visitations in 1485, 1506, 1517, 1528, and last of all in 1551. It was brought to England by the foreign mercenaries who composed the army of the Earl of Richmond, who afterwards became Henry VII. It had so quick a crisis that it was called the *Ephemera Britannica*, for often within the space of twenty-four hours the fate of the sufferer was decided for life or death. It sometimes seized principally upon males in the prime of life, and on the higher rather than the lower classes. Its ravages were prodigious, and the superstition went forth that Englishmen alone were destined to be its victims, and that it followed them into every distant country, while it spared foreigners, even in England.—*Record.*

The black plague derived its name from the dark and livid color of the spots and boils that broke out upon the patient's body. It descended along the Caucasus to the shores of the Mediterranean, spread over the South, and only entered Russia after the rest of Europe was affected. It followed the caravans which came from China across Central Asia until it reached the shores of the Black Sea; thence it was conveyed to Constantinople by ships, because this was then the commercial centre between Asia, Europe, and Africa. In the year 1347 it reached Sicily, Italy, and Marseilles. The next year it spread to France, Germany, and England. It did not reach Russia till 1351, or four years after it was at Constantinople. Thus, like the cholera, it followed a regular route, which differed according to the lines of trade and commerce at the different periods. The populace attributed the plague to water poisoned by the Jews, and persecuted them infamously: 1,200 Jews were burnt in Mayence; London lost 100,000 in one month; Avignon and Florence, each 60,000; Marseilles, 56,000; Paris and Norwich, each 50,000; Strasburg and Erfurth, each 16,000; Basle, 14,000; and Venice, 10,000 in one month.

Septenary Periodicity.—The moon quarters every 7 days, and completes its revolution in 4 times 7, or 28 days. Natural, regular typical cases of menstruation occur every 28th day, or the 4th multiple of 7. The normal period of gestation in the human female and in the cow is a multiple of 7, *i.e.*, 40 times 7, or 280 days. The ewe which remains unimpregnated comes in heat every twice 7, or 14 days; the cow, the mare, ass, and buffalo, every 4 times 7, or 28 days. The whale also carries her young 280 days. Gestation in the dog lasts 63 days, or 9 times 7; in the cat, 56 days, or 8 times 7; in the fox, 42 days, or 6 times 7. The common hen sits on her eggs 21 days, or 3 times 7; the duck and goose, 28 days; the swan, 42 days, or 6 times 7; the peacock, 28 days; the crow, 21 days; the linnet, canary bird, pigeon, and goldfinch, 14 days. Bees' eggs hatch out in 21 days; moth eggs in 14. Fever and ague has a tendency to terminate spontaneously after the 7th, 14th, and 21st paroxysms, and relapses are apt to occur at the same time. Relapsing fever is a disease of 7 days' duration, common typhus is a 14-days' fever, and typhoid a 21-day disorder. The incubation of measles is 14 days, and it occupies 7 days, viz., 3 days of catarrh and 4 of eruption, before it declines. Scarlet fever and erysipelas occupy 7 days. Small-pox requires a double septenary period of 14 days; the first 7 days are occupied with the primary fever and the full development of the eruption up to its vesicular stage, and by the 14th day the secondary fever, which commenced on the 9th day, has gone, and the whole crop of pustules has been converted into desiccated scabs. In 1,034 cases in which measles were successfully inoculated the fever and catarrhal symptoms commenced on the 7th day and declined on the 14th. In 14 cases of erysipelas the period of incubation was 7 days.—*Medical Record.*

Hydrogen Peroxide as a Test for Pus in the Urine.—The addition of a few drops of hydrogen peroxide to a sample of urine containing pus is said to cause an effervescence quite as active as that resulting from addition of hydrochloric acid to an alkaline carbonate. The effervescence continues until all the pus is destroyed, so that it cannot be detected under the microscope. Such being the case, the peroxide of hydrogen affords a most delicate test for pus in the urine, and one very easy of application.—*Age.*

Resolutions of Respect.—At a meeting of the physicians of Lexington, Ky., held at the office of Drs. Skillman & Scott, the following was unanimously adopted: His professional brethren having heard, with feelings of deep regret, of the death of Dr. Benjamin William Dudley, which occurred in this city on Thursday, July 3d, 1884, at 10 o'clock, consider it eminently just and proper, thus publicly to give expression to their esteem of him, and offer a tribute to his memory. Dr. Dudley bore the name, and was descended from a family illustrious in the annals of Kentucky surgery; and his being taken away at the age of forty-six years, in manhood's very prime, in the midst of professional success, blighted high hopes, and put to an untimely end, a career of usefulness and distinction. After graduating at the Medical College of Keokuk, Iowa, and living a short time at Hamilton, Ohio, he removed to New York City, and engaged in active practice, where he had rare opportunities for observation and experience, and enjoyed the esteem and friendship of many of the most distinguished physicians and surgeons there, who will be grieved to learn that he has passed away. In 1872 he married, and two years later located in this city, the home of his ancestors, and here continued his professional labors until they were arrested by disease, and death closed his useful life. By that death the medical profession is deprived of an intelligent, competent and useful member, and the community of an honorable and worthy citizen. And it is our desire that a copy of the foregoing be transmitted, by the secretary of this meeting, to Doctor Dudley's family, with assurance of our heartfelt sympathy and condolence. Also that the papers of this city and medical journals of this State and New York and Pennsylvania be requested to publish them; and that, as a further evidence of respect, we attend his funeral in a body.—M. T. Scott, M.D., Secretary, H. M. Skillman, M.D., Chairman.

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MEDICAL NEWS.

Patent Medicines in England.—Over $750,000 were paid last year as duty on patent medicines in England.

Delirium Tremens is traced to a micrococcus—"the worm of the still."

Prof. Darwin's Marriage in Erie, Pa.—A notable event in the social history of Erie took place July 25th. It was the marriage of Miss Maud Du Puy, of Philadelphia, to Mr. George H. Darwin, F.R.S., Professor of Astronomy in Cambridge University, England. Mr. Darwin is the third son of the eminent naturalist, Charles Darwin. He is himself a scientist of world-wide reputation, and an authority in his special department.

Singultus.—Dr. Ellis (*Texas Courier of Med.*) adds another to the long list of remedies for hiccough. He says "that anything which will cause a patient to sneeze will cure him of hiccough instanter."

The Texas State Medical College.—The faculty for a college at Fort Worth has, it is said, been organized and a Board of Trustees of leading citizens appointed. A charter will be applied for early.

The "St. Louis Medical and Surgical Journal."—Dr. F. M. Rumbold, after the July issue, becomes the publisher, and Dr. Le Grand Atwood editor-in-chief. Success to both.

The *Pacific Medical Journal* and the *Western Lancet* will, with the number for July, 1884, be consolidated. Good wishes for the copartners.

The *Chicago Medical Journal* has passed into the hands of a new corps of editors; so has the *New Orleans Medical and Surgical Journal.* It is hoped that these sterling periodicals will command that full support to which their venerable age and great merits entitle them.

Dr. R. H. McDonald, of California, failed to capture the prohibitionist nomination as president, but he got a fine advertisement for his "Vinegar Bitters." His campaign of self-assertion seemed to work very well with the brethren at Pittsburg until it became noised about that he had been concerned in the manufacture of the tonic named, which includes a portion of alcohol among its constituent parts, when he promptly disappeared.

Dr. J. H. McLean, the vermifuge, worm seed, and patent medicine man of St. Louis, having served a short term in Congress, felt the need of a newspaper organ. Two months ago he started a two-cent journal in St. Louis, the *Morning Call.* It has received its last call and has gone to join the innumerable caravan.

Dr. F. E. Daniel, the senior editor of the *Texas Courier-Record,* desires to correspond with a physician doing a paying practice in a growing city, with the view to forming a copartnership and changing locations. Reasons for leaving Fort Worth satisfactory.

N.B.—The proposed removal will not affect the issue of the *Courier-Record.* Or, a half interest in that journal (which is prospering) *might* be bought.

Dr. J. Edgar Chancellor, formerly Demonstrator of Anatomy in the Medical Department of the University of Virginia, has been elected to the chair of Gynæcology and Histology in the University of Florida.

The *North Texas Medical and Surgical Reporter* is to be issued July 1, 1884, by Dr. J. Briggs, at Gainesville, Texas.

Meat Powders.—J. Ferré, gendre de Favrot, successeur de Favrot de Brou de Aroud et de Boyveau Lafecteur, 102 Rue de Richelieu, Paris, has introduced this valuable preparation. The American agents are E. Fougera & Co., 30 North William street, New York, who will furnish specimens on application.

Cholera.—The following is the memorandum presented to the Mayor of Toulon by Dr. Koch, on July 10:—"Cholera is propagated by people, and is communicated almost without exception by direct contact with human beings or the articles they wear. In time of cholera it is necessary to lead a regular life, experience showing that digestive derangements promote the outbreak of cholera. Excess in eating and drinking should therefore be avoided, as also heavy food, which may produce diarrhœa. Send for a doctor as soon as the latter appears. Swallow no food coming from an infected house. Articles coming from an unknown quarter should be cooked; I mention milk in particular. All water defiled by man should be prohibited. Doubtful water to be avoided is that coming from shallow wells in inhabited spots, and from marshes, ponds, brooks, or watercourses receiving and conveying contaminated water. Water is considered especially dangerous which in any way has been defiled by choleraic evacuations. As a corollary of the foregoing it may be added that water used in washing dishes and linen should not be thrown into wells or streams, or the vicinity of them. When it is impossible to obtain water pure the simplest plan is to boil it. This refers not merely to drinking, but to kitchen water. for the choleraic germ may be transmitted when in water to the person using it for washing linen or dishes, or for preparing food or for ablutions. The chief lesson from this remark is that water drank is not the only vehicle of the choleraic germ. That water is pure or boiled is not an absolute safeguard. Any case of cholera may become a centre of infection. The patient should be removed and unnecessary contact avoided. In time of cholera avoid large gatherings, such as fairs, festivals and meetings. In rooms where there are choleraic patients eat and drink nothing. Choleraic evacuations should be collected in vessels containing a solution of carbolic acid. The apartments of choleraic patients should be left uninhabited for six days. Persons having had contact with patients should wash their hands in soap and water and a solution of carbolic acid. In case of death the body should be immediately removed, and the funeral should be as plain as possible. The procession should not enter a deadhouse. Articles used by patients should not be transported till after disinfection. Laundresses should not take the linen of patients unless disinfected. Precautions other than the above are either unknown or not recommended."

DR. KOCH AND THE LEGION OF HONOR.—The French Government has decorated Dr. Koch with the cross of the Legion of Honor in recognition of his researches as to the source and spread of cholera. As the "source" of cholera is not yet demonstrated, and the "spread" of it not yet controllable (certainly not in France), this action of the French Government is flattery rather than justice.

SINCE Dr. Labardi operated on the head of the murderer Campi, Dr. Brown-Séquard has undertaken a similar experiment with a dog. He wished to see whether, after a violent death in a healthy state, consciousness in a dog could be restored. He therefore beheaded a dog that was familiar with his voice, another dog having beforehand been prepared for the transfusion of its blood into the arteries of the dead dog's head. No sooner did he inject the blood than the head became animated, the eyes opened and, on the name of the dog being called, an attempt at response was made by a significant look.

A NEW CREMATORY.—PITTSBURG, July 18.—A company has been formed for the purpose of building and operating a crematory on the outskirts of this city. The plan of the crematory is very much like that of the one at Washington, only it is to be somewhat larger, with two entrances—one into the crematory proper, the other into a waiting room, which is also connected with the new heating room. The cost of the building will not exceed $6,000. It is proposed to use natural gas instead of coke for heating the crematory apparatus, as by the use of gas it requires but a few hours to get the apparatus sufficiently heated to cremate a body, whereas a much longer time and a greater expense would be required in heating with coke. The proprietors of the enterprise are not members of any society for the advancement of science, but frankly state that the object of their undertaking is to make money. They believe that cremation has already become sufficiently popular to make a crematory centrally located a paying investment. They expect to be ready to receive bodies in six months.

PRESIDENT ARTHUR'S CHOLERA PROCLAMATION, while opportune enough, is not creditable in diction or in its scientific aspects. It was issued July 20th, and is as follows: "Feeling it my duty, I hereby call upon all persons who are intrusted with the execution of quarantine regulations to be diligent and on the alert in order to prevent the introduction of the pestilence which, we all regret to learn, has made its appearance in some of the countries of Europe, between which and the ports of the United States intercourse is direct and frequent. I further advise that the cities and towns of the United States, whether on the coast or on the lines of interior communication, by sound sanitary regulations and the production of cleanliness, be prepared to resist the power of the disease and to mitigate its severity. And I further direct the consuls of the United States, in the ports where the pestilence has made or may make its appearance, to exercise vigilance in carrying out the instructions heretofore given, and in communicating to the Government of the United States any information of value relating to the progress or treatment of the disease."

PHILIP HAMILTON, the youngest son of Gen. Alexander Hamilton, who was killed in a duel with Aaron Burr, died in Poughkeepsie early in July, 1884. He was at one time Assistant District Attorney of New York, and conducted the trial of Gibbs in 1861. He was also Judge-Advocate of the Naval Retiring Board at the Brooklyn Navy Yard. Since 1865 he had led a quiet life. He leaves a widow and one son, Dr. Allan McLane Hamilton, of New York. Deceased was born in New York City June 1, 1802.

FREE HOME FOR DESTITUTE YOUNG GIRLS AT 23 EAST ELEVENTH STREET.—Destitute young girls under twenty-five years of age, of all religious denominations and of good character, are received free of all charge for a month or more, and places found for them in the country. Matron, Mrs. V. M. Bokee; Officers, Mrs. J. W. Baker, Mrs. H. K. Thurber, Mrs. Henry W. Johnson, Mrs. John H. Mortimer.

THE ASHES OF PROFESSOR S. D. GROSS weighed about seven pounds. They were enclosed in a marble urn about three feet high, unornamented, and without inscription, and placed beside the coffin of his late wife in the family vault at Woodland Cemetery.

DR. J. M. DACOSTA, of Philadelphia, heads the list of contributors to the S. D. Gross Professorship of Pathological Anatomy with a donation of $2,000. The *Medical News* reports $4,459 subscribed to June 28.

THE DOCTOR'S FEE TOO SMALL.—CAMILLA, Ga., July 15.—Mrs. Millie Jackson, of this place, died under such mysterious circumstances that an inquest was called. The jury returned the following remarkable verdict: "We, the jury, from evidence heard, find ground for suspicion of foul play, but cannot make a verdict without the confirming aid of a post-mortem examination, which cannot be held for reason of physicians refusing to operate for fees prescribed by law." The husband, however, was held by the County Court for wife whipping, and was sentenced to six months' imprisonment. The *Clarion* says no one can blame a physician for refusing to dissect a mangled corpse in this hot weather for so small a fee as $20.

THE FIRST CHILD OF THE TERRITORY.—The fund of $5,000 collected in the Cœur d'Alene mining region for the first baby born within the territory was awarded to the wife of a freight hand on the Northern Pacific, *who walked 25 miles that her child might first see the light in accordance with the term of the prize, and received the money.—Lewiston* (Idaho) *News.*

DR. O'DONNELL'S LEPERS FOR SHOW.—Dr. C. C. O'Donnell has perfected his arrangements for his trip to the East with two lepers, whom he will exhibit to show the Eastern people the benefits of coolie immigration. He has a box car partitioned off for the lepers. He has a large portfolio filled with photographs of lepers, some of whom are white, which he will exhibit. According to Dr. O'Donnell's statements leprosy is on the increase, and there are now between 200 and 250 cases in this city, very many of them being little developed as yet. His plan is to leave San Francisco at 2 P.M. Sunday, July 20. He will visit St. Louis, Cincinnati, Indianapolis, Chicago, New York, Philadelphia, Baltimore, and Washington. At each place he will speak and illustrate the theme with lepers. He says that there is no quarantine against leprosy in any city except San Francisco, and that he will therefore be allowed to proceed. He hopes to speak in front of Beecher's Plymouth Church in Brooklyn and in the National Capital. At the latter-named place he proposes to leave the lepers for the benefit of Eastern Congressmen. Then he will return to San Francisco.—*San Francisco Bulletin.*

DR. CYRUS EDSON of this city has procured samples of water taken from wells in the down-town business districts, and will have them analyzed, as he believes that they contain impurities which would render them sources of danger should cholera appear. If the water is not wholesome the wells will be closed. Dr. Edson has also recommended that a section be added to the sanitary code prohibiting the use of metal in the manufacture of any receptacle, conduit or faucet for holding or drawing off any beverage which would form on the metal a deleterious or poisonous compound.

DR. CHAPIN'S PROMOTION.—Dr. John Bassett Chapin, at present Superintendent of the Willard Asylum for the Insane, at Willard, N. Y., was on July 16 unanimously elected by the Board of Managers of the Pennsylvania Hospital for the Insane to succeed Dr. Thomas S. Kirbride, deceased, as physician-in-chief and superintendent of that institution. Dr. Wise succeeds Dr. Chapin.

CHOLERA AMONG ANIMALS PRECEDENT TO AN EPIDEMIC.—In two places in India, Ahmednuggur in 1882, and Siroor in 1883 (*Indian Medical Gazette*), an extraordinary mortality among cats prevailed simultaneously with cholera among human beings. The disease which carried off the cats presented the same symptoms at both places, death resulting from swelling of the throat and asphyxia. During the first three weeks of July, 1882, about 750 cats died at Ahmednuggur and 300 died last June at Siroor A series of official papers on the subject has been published, and the Government has directed that, in case of any similar epidemic appearing among cats in future, careful observations shall be made with a view to determining the relation of the disease to cholera. The Siroor epidemic commenced a week after cholera had broken out, and ceased shortly after the cholera disappeared.

DR OLIVER WENDELL HOLMES'S LOSS.—The death of Mr. Edward J. Holmes, the second son of Dr. Oliver Wendell Homes, which took place at his summer residence in Milton, is deeply lamented in the wide circle of friends who enjoyed his intimate acquaintance. He was graduated from Harvard College in 1877, and for a time was the private secretary of Charles Sumner, succeeding Mr. Moorfield Story in that position.

DR. EDWARD WARREN (Bey) had, in June last (1884), conferred upon him by the University of North Carolina the title of LL.D. A high honor, well bestowed.

A MISCHIEVOUS AND FOOLISH LETTER.—Miss Florence Nightingale has written a letter in which she denies that cholera can be communicated from one person to another or carried from place to place in clothing and other articles. She seems to think that it is generated by filth, and is hence liable to originate in any particularly filthy city. (!)

TAKING NEEDED PRECAUTIONS.—WASHINGTON, July 30.—The National Board of Health held its annual meeting to-day and elected officers for the ensuing year as follows: President—Dr. James L. Cabell, of Virginia; Vice-President—Dr. Stephen Smith, of New York; Secretary—George E. Waring, Jr., of Rhode Island.

EDITORIALS.

THE CHOLERA.—The following paragraphs furnish in brief an abstract of the "memorandum" recently issued by the New York State Board of Health in regard to cholera:

The State Board of Health considers the possibility and facilities for the introduction of cholera into this country too obvious to be disregarded. The history of former invasions of cholera, says the Board, warrants the belief that its re-appearance here is probable. Cholera, which in two months of midsummer in 1865 destroyed 80,000 lives in Egypt, reached France and Germany by September, and was discovered at the New York Quarantine as early as November. In the Spring of 1866 it again threatened the United States. It lingered in the West, was returned to Governor's Island, and thence found a new departure in 1867, when it was terribly destructive in some sections. The outbreak in the Mississippi Valley in 1873 was traced to its introduction by way of New Orleans. The disease as reported in Southern Europe presents the same threatening aspects, the Board thinks, as it did in August, 1865, when it was conveyed to these shores in a definite manner, and to about the same series of resting places and fatal points of outbreak that it now threatens to attack.

The facilities for the introduction of the disease have increased since 1865, but the means of exact sanitary knowledge and quarantine police for arresting and stamping out the transportable cause of it are also greater. No city which is fully prepared for the announcement that Asiatic cholera has come need be invaded by it, if proper sanitary care is exercised. The floods throughout Europe and the United States, the attendant circumstances of the drying period, the increased immigration from the Mediterranean States to New York, and the destructive malignancy of the disease, all give warning to be ready for Asiatic cholera.

There is, says the State Board, a specific infective cause of Asiatic cholera, called its contagium, by which it spreads as rapidly as the persons suffering, ever so lightly, from it go from place to place. In every country where the contagium exists, it has ceased to be repropagated beyond the sanitary lines which separate the cleansed, drained, and ventilated premises and well-conditioned inhabitants from the filthy, or where polluted food and water and harmful beverages prepare the system for the fatal operation of the poison. For cholera to be diffused from continent to continent, it must have as factors for its cultivation a centre of pollution for its cradle, a ship for its transport, and a number of towns prepared for its reception and development. Local conditions of danger—the sanitary neglects that have prepared for a lodgment and repropagation of the cholera in filthy places and sodden grounds—are found in every port, city, and village, and in many rural hamlets. The prevention of propagation is very difficult after the disease has obtained a foothold in any of the commercial centres. The presence of filth, stagnant pools, polluted water, and badly housed and imprudent people will invite cholera to hundreds of places in the State if it once appears in any port. " Now," says the Board, " before the exotic infection has come, let all local Boards of Health and all householders lose no time in enforcing such thorough scavenging and cleansing, such cleaning of sewers, drains, and ditches, and such ventilating, drying, lime-washing, and disinfecting of cellars and all damp and unclean places, that if cholera comes, its infective germs shall find no soil or foul surface in which to propagate epidemically."

The contagion is not chiefly taken from the bodies of the sick, but the virus is proved to require the concurrence of attendant conditions of moisture and filth to produce any extended series of cases. One great source of danger is that the exotic germinal matter becomes not only infective of persons exposed to it by water or the atmosphere, but may, by its infinite rapidity of reproduction, under favoring conditions of foul air and filth, rapidly become epidemic within the limits of such impurity. Sanitary barriers must therefore be erected before cholera comes. As soon as found, the disease must be treated by vigorous isolation and destructive disinfection.

Preventive sanitary measures consist in annihilating all local conditions which would harbor the disease. If the cholera germs find no breathing place in filthy condition of premises, air, or drinking water, there is no danger. The memorandum concludes : " Whenever cholera comes, as we hope it will not, a brief statement showing how to resist cholera and what to do in its presence will be immediately sent to all parts of the State through the local Boards of Health. It is now the duty of local sanitary authorities and all householders to inspect the premises within their jurisdiction and promptly cause the necessary sanitary improvements to be made. None of this work will be lost, even were cholera effectually arrested by the barriers of quarantine and disinfection at the ports it enters. The reasons for sanitary inspections and works are applicable to protect against infectious and epidemic diseases generally, and it is because in the midst of wet grounds and pools, filth-sodden surfaces, foul sinks, and polluted drinking waters, cholera finds local conditions for its epidemics, that now the general duty is urged upon all sanitary authorities and householders to make careful sanitary inspections ; to drain all stagnant pools and low grounds near dwellings ; to clean all sewers and house drains ; to cleanse and disinfect cellars, privies, and all filthy places, and examine and protect the purity of drinking water."

It is difficult to understand how any Health Board, however obscure, could issue such a paper, but when this "memorandum" is sent out by a scientific Body, claiming to be one of the first in this country, or in any country, the most charitable must feel that it would be unpardonable if the medical press did not criticise this "memorandum," so widely issued, and expose its many errors, fallacies and absurdities.

In doing its part in such unwelcome work, this Journal will not waste time and labor in criticising the errors and fallacies appertaining more particularly to the literary and historical aspects of the subject, but will confine its criticism almost exclusively to those practical questions which affect the health and safety of the Public.

The Board says that "the history of former invasions warrants the belief that the re-appearance of cholera here is now probable." This statement leads every reader into the palpable blunder that this State Board of Health, or any Board, can rationally make this alarming prediction; and that other invasions have been so similar in character that the same circumstances already exist demonstrably, and that the same forces are even now in operation, and must produce the like dire results. The facts are, that none of the invasions of cholera in this country were in any respect similar, and any claim that such similarity did exist, and that consequently the approach of cholera can be now predicated, only betrays the ignorance of all who are parties to such a foolish assertion. It is a blunder very inexcusable in such a Body, and a pretension wholly without foundation. All who know the history of cholera invasions in this country know that they have been dissimilar in the channels of approach, in the mode of approach, in the season of approach, and even in the latitudes of the localities first invaded. In such a short paper, there is not room for description, and this is unnecessary; it is to be found in every medical history of the American invasions.

The assertion is made, in this "memorandum," that the facilities for the introduction of cholera have increased, but the means of exact sanitary and quarantine police for arresting and stamping out the transportable cause of it are also greater. The facilities mentioned have not increased, they are the same; and as to there being more exact sanitary knowledge and greater power for "stamping out" the disease, this is mere nonsense. It is a foolish claim that has no foundation in truth whatever. Every frank and scientific physician knows this to be the fact, and must admit it to be so. It is what the politicians would call mere buncombe; it is unworthy of scientific men, and it most inexcusably misleads the Public, giving rise to carelessness in the hour of danger, and causing a fancied security which does not exist. It is claiming, too, for the profession a power and ability which they do not possess, and is a mere farce, a boasting and vainglory wholly inexcusable. The French have for weeks been trying to "stamp out" an invasion, originally very small, and almost insignificant; but with the aid of Koch on the ground, and enjoying all the resources of medical science, the disease, so far from being stamped out, is daily spreading in area, and becoming more deadly in its prevalence. This is the truth. What the State Board has declared is not the truth.

This Board declares that "no city which is fully prepared for the announcement that Asiatic cholera has come need be invaded by it, if proper sanitary care is exercised." If the authors of such foolish language do not know better they ought to be displaced, and if, knowing better, they can so wantonly and dangerously mislead the Public, they ought to be not only officially displaced, but expelled from every scientific Body in which they enjoy membership. Every one who knows or even pretends to know anything of the cholera invasions of this country is fully aware of a generally admitted fact, that while the disease, as a rule, first invaded cities, it has most generally attacked the smaller towns and villages of the Ohio and Mississippi valleys ; towns of small population, pure water, clean streets, and thoroughly ventilated. More than this, at the last invasion, the disease appeared almost simultaneously in some of the cleanest towns in Dakota, Minnesota, and Ohio. And, what is equally well known, it has almost destroyed emigrant trains in the West, though they changed camp every day, and were absolutely free from all of those familiar poisons which are of municipal origin ; poisons due to sewers, unclean streets, badly-ventilated houses, and overcrowded populations. While such poisons intensify cholera epidemics, giving to them a wider local prevalence, a more malignant character, a greater mortality, and an increased duration, no one worthy of the position accorded to physicians (who are believed to be safe or prudent guides), would assert publicly or officially, that cities " prepared for cholera need be invaded by it." Such a statement is absolutely inexcusable.

" There is," says the State Board, " a specific infective cause of Asiatic cholera, called its contagium, by which it spreads as rapidly as the persons suffering from it go from place to place." This diction, bad as it is, will not be criticised, but every one must feel that the dictum published is not yet demonstrably true, and therefore out of place in such a paper, and premature. Physicians hope that what is here alleged to be true is true, but it cannot yet be said to be true. Many able men deny the specificity of the cholera poison, and while it is believed that they grossly err in so doing, it cannot yet be properly said in a scientific and official paper that they do err, and that the disease is due to a specific infective cause. That the disease travels as the subjects of it travel is generally true, but that it has often traveled when the agent of transportation could not be demonstrated cannot be denied. The *cordon sanitaire* has been proved to be a failure more than once ; and the most vigorous quarantines, however just, have often proved to be ineffectual. The statement then quoted as the allegation of this Board is not demonstrably correct ; more than this, its truth is denied by very many.

The Board states that " in every country where the contagium exists it has ceased to be repropagated beyond the sanitary lines which separate the cleansed, drained and ventilated premises from the filthy." So far from this being true in regard to " every country," it is not true in regard to any country. Cleanliness is a powerful and recognized mitigator of cholera, but in no invasion has it ever proved to be a barrier. The cleanest houses are less exposed, but it is a fatal error to declare that their inhabitants enjoy immunity. Emigrant trains in clean camps have been often decimated.

The Board states that for cholera to prevail, "a number of towns must be prepared for its reception." At the last epidemic, immigrants from Sweden, Holland, and Russia, did not suffer until they reached their clean American homes in the West, where they were almost swept away by the disease carried in their baggage. Cholera prevailed then with dire vengeance, but there were no "towns prepared for its reception." The disease does not exact such hospitality. As to saying that it will not prevail otherwise, this statement only shows the ignorance of its authors.

The manner in which the contagion is "taken" is given by the Board, but it is needless to say to the medical reader that such descriptions have no value. They are not correct. No one can explain the problem or mystery which this Board so graphically elucidates, or attempts to elucidate, in the fourth paragraph of this abstract. As to the Board's statement that "the virus is proved to require the concurrence of attendant conditions (*sic*) of moisture and filth to produce any extended series of cases," no one can be thus misled who knows anything of the Russian epidemics on frozen ground, or the African fatality on arid sand.

Finally, the Board says, "if the germs find no breathing places in filthy conditions of premises, air or drinking water, there is no danger." How the germs (if there be germs) breathe cannot yet be stated by any others than the members of this Board, but that they can "breathe" without enjoying "premises, air, or drinking water," is beyond dispute; they breathe very successfully in emigrants' chests and trunks, and when unpacked are likely enough to create "danger" so effectual, as to betray this in the language of cholera corpses and desolated villages.

As to the draining, liming, cleansing, etc., enjoined, this is, of course, very proper and necessary; but it is a matter thoroughly understood by the people, and it was scarcely necessary to embody such trite and commonplace directions in so important an official paper.

It may be said very truly of this paper that it is full of errors; that it must mislead thousands; that it claims powers for the medical profession which are not possessed; that it betrays great ignorance in regard to the historical facts appertaining to cholera; that it is commonplace and elementary in the extreme; and that, finally, its errors constitute its only claims to originality.

THE GREELY EXPEDITION: MEDICAL MATTERS OF INTEREST.—It is very demonstrable that eighteen of the nineteen dead of this expedition died from starvation. It is equally demonstrable that they thus died, because General Hazen, instead of having food deposited at Cape Sabine, on the southernmost portion of the east coast of Grinnell Land (as had been agreed upon, and as was requested by Greely), instructed Lieutenant Garlington, of the relief ship, not to deposit food on the northern voyage, but to push on to Lady Franklin Bay, and if not able to reach Greely's camp to return, and deposit the supplies, on his return, at Littleton Island. Garlington obeyed orders, lost his ship, and as the supplies had not been deposited on the northward voyage, they were lost, and the returning party of Greely, not finding them, perished of starvation very near the spot at which they expected to find these supplies. So sure were they of finding supplies at the point agreed upon, Cape Sabine, that they had left an eight months' supply of provisions at the camp which they had occupied for two years, and which they abandoned to move southward in August, 1883. This imbecility, if not breach of faith on the part of General Hazen, resulted in the destruction of eighteen lives from starvation. What is equally remarkable is that, had Garlington not lost his ship, but, returning from an impracticable voyage northward, left his supplies, as ordered by Hazen, at Littleton Island, Greely's party would just as surely have perished from starvation; for between Cape Sabine, to which Greely had retreated for his provisions, and Littleton Island, where Garlington was ordered to leave his supplies, there was an impassable strait, an open sea, unfrozen, over which Greely and his men, without boats, could never have passed. The loss of these eighteen men is therefore due to a very undeniable and demonstrable cause: the incompetency of the chief signal officer of the United States Army—General Hazen.

As a matter of great medical interest, it should be noted that Greely and his men had passed two years on the shore of Lady Franklin Bay, near the extreme northern limit of Arctic exploration, without suffering from disease or accident; deprived each year, from October to March, of sunlight, and with a temperature which, not infrequently, was 61° Fahrenheit below zero—93° below the freezing point. When the camp was abandoned, after two years' occupation, in August, 1883, the original twenty-five occupants were in good health and spirits.

It was remarkable that Greely's men, in their southward march, opened *cachés* in which provisions had been stored in 1875, and found the meat and bread sound and "in good condition."

In their last camp, at Cape Sabine, they lived from September, 1883, to June, 1884; from October to March, they were in darkness; on short rations; without fuel for warming themselves; much of the time living on the boiled sealskin of their boots and garments, with lichen; drinking brackish water; without occupation; most of the time without hope; and yet there was but a single case of scurvy, and death from starvation did not commence until April, 1884. One died after the rescue, and not one could have survived "forty-eight hours more." Four were nearly dying when the rescuing party arrived. Men that weighed 160 pounds in health weighed then 104; gaining 20 pounds a week for three weeks successively after their rescue. One man lost both feet and both hands from frost-bite, but did not die until he died finally from starvation.

In that pitiful period, from October, 1883, to March, 1884, these men were in the dark; without fuel for warming; with one lamp; on short rations; unable to exercise. And yet let it be said, to the praise and honor of man, that they were brave and unyielding. Dr. Pavy lectured often with care and eloquence; several officers did likewise; the men told stories and anecdotes; each lectured upon the resources of his native State; they read, by turns, from a single lamp, fed by seal-skin fat, each reader lying prone, with his book within a few inches of the flame, and when all was read, all was again read, and re-read again.

When discovered, only one could walk out of the tent; he raised the flag-pole and then the flag, and after holding all up for two minutes was exhausted, and dropped the precious signal, herald and guide.

They were carefully tended; rescued and rescuers shed tears; and then the living, the semi-living and the dead shipped and were shipped on boats to return from this fearful land to their country, their homes, and, alas! to their cemeteries. Shall this slaughter be the last?

GEN. HAZEN ON STARVATION AND GEOGRAPHY.—Gen. Hazen is, it appears, much annoyed at the statements made in regard to his causing the deaths of seventeen of Greely's men by starvation. He has published the following explanation:

"It was the plan from the first to place the depot upon the east bank of Greenland, at Littleton Island. This was Mr. Greely's plan, after very careful and prolonged study of the whole subject. He not only made the plan before he started, but very carefully reiterated it in writing after reaching Lady Franklin Bay, closing his letter on the subject in these words: 'No deviations from these instructions should be permitted. Latitude of action should not be given to a relief party who, on a known coast, are searching for men who know their plans and orders.' The reasons for this decision were that there was coal on the east side, and none on the west; it was in the neighborhood of the friendly Esquimaux, who did not live on the west side. On the east side there was abundant game, while there was none on the west. Numerous camps of explorers had been established on the east side for these reasons, while they were never established on the west side, because the west side was scarcely more than a barren rock.

"The pledge of the Signal Office to support Mr. Greely, in exact accord with this arrangement, was the most sacred which any man could give. To have departed from it would have been base treachery. This was done in every particular. Retrospectively, one may now see other plans that might have been better, but in making personal judgments we must place ourselves in the position of Mr. Greely and those who were working with him three years ago at the time he left. The Signal Office was condemned by the Court of Inquiry because it did not depart from this agreement so far as to establish the depot going up instead of coming down, if it failed to reach Lady Franklin Bay as Mr. Greely had directed; but it seems now, had this been done, Greely could not have reached it, as explained in his despatch, for reasons then not foreseen."

It is certainly very remarkable that, after all of his fatal blundering, this officer should in this card, so carefully prepared, commit the most foolish blunders still. He does not even know the primary geography of the regions to which he sent these brave men, and which knowledge even a modern schoolboy should possess. He is much annoyed, and very naturally; to be the cause of avoidable suffering and death is very annoying, and to be charged publicly with this is still more so. He was greatly annoyed when the Proteus Court of Inquiry held him responsible for nine "grave errors and omissions" which "either directly led or largely contributed to the abortive issue of the [Garlington] expedition." It is not difficult to get the meaning of his explanation just published, although he seems to have imagined that Littleton Island is on "the *east* bank of Greenland." He intended to say, of course, that Greely had directed that the provisions should be deposited at Littleton Island, on the east side of *Smith's Sound,* on West coast of Greenland. If Gen. Hazen will again examine the official copy of Greely's letter, dated August 17, 1881, he will find that Greely urged that the first provision depot should be made by the relief expedition of 1882 " at a permanent point on the East coast of Grinnell Land (west side of Smith's Sound or Kennedy Channel, and west of Greenland)," and that the relief expedition of 1883 should make another deposit on the west side of Smith's Sound, " between Cape Sabine and Bache Island," before going into winter quarters on the other, or Greenland, side of the sound at Littleton Island or Lifeboat Cove. He insisted that these instructions should be obeyed, in order that " the Grinnell Land coast [not the East coast of Greenland, at Littleton Island, on the other side] might be covered with seven dépôts of ten days' provisions in less than 300 miles." It is not strange that a man who so misunderstands or misrepresents the plain directions in Greely's letter should have been guilty of the blunders enumerated and so severely condemned by the Proteus Court.

SURGEON OF THE GREELY EXPEDITION.—When this paragraph is read, all will have known that the survivors of the "Greely expedition" (one of the many foolish expeditions toward the North Pole) have been rescued, and are on their way home with many of the dead bodies of their late companions. It seems that of the twenty-five who formed that expedition six only remain; and that of the dead (19) eighteen died of starvation, partly due to the imbecility of those at Washington who were charged with the care and protection of this expedition, and partly to causes inherent in all such foolish excursions towards the North Pole, and inseparable from them.

It is but a few months since, that the country was gathered, in spirit, around the open grave of the noble, the heroic, the brave Ambler, who, as surgeon of the Jeannette expedition, was brought home to be buried, in the prime of a distinguished career, near the homes of his ancestors.

Now there is, amid the general lament over the nineteen who fell in the Greely expedition, particular grief over the untimely end of Dr. Octave Pavy, the brave surgeon of this expedition.

The medical officers of the North Pole expeditions go down at their posts of duty. This is a grand part of the history of all of these unfortunate expeditions, and that statement is one of the proudest inscriptions for the professional banner. If others err, they have been true to the fatal end.

Dr. Octave Pavy, the surgeon of the expedition, had a somewhat varied career. He was born in Havre, France, where he was educated, and where much of his youth was spent. Early in life he accompanied a French expedition to Lady Franklin Bay, and spent several years in the polar regions. He at one time wrote for the newspapers in this city. He was a member of the Howgate expedition, and when this failed he remained at Disco Island, off the coast of Greenland, until he joined the Greely party. He had lived and practised medicine for several years in the West. His wife is now living at Maryville, Nodaway County, Mo.

And so this notice closes, as do all that have preceded it, with a record of failure; with an obituary notice; with sad, but welcome testimony to the fidelity and bravery of the medical dead.

More Official Stupidity.—On July 16th, as soon as the rescue of the survivors of the Greely expedition was known, Gen. Hazen sent a communication to Gen. Sheridan, Acting Secretary of War, suggesting that Lieutenant Greely and the other survivors be directed to remain at St. Johns until cool weather, as their coming to a low latitude in the summer months, after their three years' exposure in the arctic regions, might, he feared, result disastrously. He is of the opinion that the suggestion will be received favorably.

It seems that this officer has a capacity for blundering and foolish officiousness wholly unprecedented. Every schoolboy must know, or should know, that the Greenland summers, experienced for three years by the men of the Greely expedition, are far hotter than the summers in any portion of their native land. Ships in summer often have the oakum and tar in their seams so affected by the intense heat, that during the day they are hauled away from the pier and placed in the harbor. The summers of St. Johns are much warmer than those in the United States. It is presumed that Gen. Hazen was not aware of this, for it cannot be supposed that he feared the effect of the cool summer weather of the United States on Arctic voyagers!

It is a pleasure to know that no attention was paid to this request of Gen. Hazen, for the Secretary of the Navy has ordered the immediate return of all of the survivors.

If Gen. Hazen had furnished the proper directions for previous relief expeditions, eighteen of Greely's men would not have died of starvation; food would have been found by these brave men in their fearful journey southward. Can it be that the meeting of these men is deprecated, and that the time for this is preferably postponed?

The climate of this country will not hurt the returned heroes. Whether their return will hurt any one else is, as yet, an undetermined question.

Moral Strength.—It is true that the discussion of this question, or anything relating to it, seems to be not as germain to the province of a medical journal as would be the presentation of any evidences appertaining to physical strength; but this view is evidently due more to custom than to any causes really belonging to the subject. Physical strength, of course, is analyzed through the media of anatomy and physiology, and so its discussion seems to be proper in a medical publication; but, while moral strength is usually discussed by secular periodicals, does not the question of such strength concern the medical journal fully as much as does the discussion of a strength purely physical in nature? Indeed, is not moral strength, as springing from forces inherent in the human being, a strength physical in origin and character? Is it not really a manifestation of one of the many elements of physical strength, and so one of the subjects proper for a medical work? It certainly seems true that that grand combination of psychic and mental force which is termed moral strength is peculiarly appropriate for the analysis of the medical man. Be that as it may, and leaving out all further discussion of the metaphysical aspects of the question, enough has been said to prepare the reader for justifying the insertion of the following interesting incidents taken from the most interesting history in the world: the life of a strong and noble and able man. The facts are taken from the *Pioneer Press*, of St. Paul, Minnesota, as follows: "Judge Thos. Drummond's resignation takes one of the best judges living from the bench. It seems greater to be great in politics or war, but the man who wins fame on the bench is truly great. There is no sham permissible there. The law proceeds from truth to truth, as the pyramids from stone to stone. Once Matt Carpenter undertook to play fast and loose in an argument before Judge Drummond. He was interrupted: 'Mr. Carpenter, you helped to pass this law. A man should be ashamed to quibble over a law of his own making.' As Carpenter went out of the court room, smarting under the rebuke like a whipped schoolboy, he remarked to a brother lawyer: 'Old Tom Drummond is the ablest legal mind this country has produced. I say it without reserve.' Once Carpenter alluded to an attorney opposed to him as 'that man.' The expression came out several times before Judge Drummond's wrath became vocal. He cried out: 'Mr. Carpenter, sit down! Desist from calling any lawyer in this court "that man." If you ever again call a brother attorney, in my court, "that man," you will cease to have the opportunity for such an insult.' In a lawsuit over the Adams estate in Milwaukee, one firm of lawyers put in a bill for $15,000, another lawyer a bill for $5,000; and still another a bill for an equal sum. The estate amounted to but $32,000, and the parties in interest were orphan children. Judge Drummond went over the charges, which as judge he must audit. As he went from item to item his anger increased. It is said by those who were present that no set of men ever received such a Jove-like castigation. 'Gentlemen,' he said, 'you consider yourselves good lawyers. How much more are your services worth to your clients than mine to the people? You have charged $25,000 for sixty days' service. Could you not be content, each of you, to take my pro rata for the same time? These charges are infamous. They are such as men who are scoundrels and thieves at heart would make. This charge of $15,000 is cut down to $1,500, those of $5,000 each to $500. Repeat such a piece of rapine in this court and I will disbar every one of you.'"

THE TRUTH IN REGARD TO CHOLERA.—It is certainly very amusing to read in the medical journals the different contributions in regard to cholera. The writers believe that they really know something of the subject selected, while the truth is that not one knows much more of the matter than does any observant old woman in every community. There is, of course, a vast deal of pedantic display in regard to the bacillus, the microbe, etc., and a pompous parade of familiar symptoms; but to what does all of this amount—nothing practically of any real value. *Vox et prœterea nihil. Stultitia scribendi.*

No! Every one who thinks honestly, and will speak and write honestly, will admit that the profession really knows but little more of cholera than it did in 1832. The mortality then was 48 per cent.; so it is to-day. The disease leaped all barriers and spread then; so it does now. Bad cases died then; so do they to-day. "'Tis true, 'tis pity, and pity 'tis 'tis true."

Of course, very many know very much about the history of cholera; there is with them, as Francis said, "a very diarrhœa of words—malignant, uncontrollable." They can tell you of all the cholera ships by name; they know all of the wagon routes, and how many died at each wagon camp; when the wagons moved, and even how they were painted, etc. But what of checking cholera? What of controlling it? What of saving life? What of the cause? It is all "the comedy of errors."

As to draining, cleaning, liming, prudent diet, prudent living, prudent drinking; as to good habits, guarding against exposure; as to early retiring and early rising, avoiding exhaustion of body and fatigue of mind. Why, go over it all; every old woman knows it all. There is nothing new, and but little true.

"Let us, then, be up and doing,
With a heart for any fate;
Still achieving, still pursuing.
Learn to labor and to wait."

This being done, essays and articles will be in order, and will be of some value. At present, what is wanted is not precept, but facts.

Dr. Dio Lewis, of *Dio Lewis' Monthly Magazize,* has, as is well-known, for years been the chief apostle of reform in woman's dress, and, apart from his advocacy of "the divided skirts" enormity, has been prophesying ruin to the body and soul of all women who use the dangerous corset or the fatal garter. He has been, so to speak, not a "knight of the garter," but a warrior tilting against every one who advocates the use of this valuable clasp about the upper stocking of the fair sex. That such a knight should be often unhorsed by the windmills against which he remorselessly tilts cannot surprise any one, and that such results do not dishearten him, only show that the spirit as well as the folly of Don Quixote does not exclusively appertain to the age of Cervantes.

Some wag has been reporting that the Don was dead, but he, to prove the error of the report, came out with a card in the daily papers, stating that he is not dead, but is living on Long Island; which, perhaps, is about as near being dead as is any condition known to the profession. Be that as it may, the *New York Times* thus humorously alludes to the matter:

"The late Dr. Dio Lewis, who during his lifetime was well-known as an earnest advocate of oatmeal and an opponent of garters, has made a very weak argument in support of an ill-advised claim on his part to be still alive, and it seems hardly possible that he can succeed in setting aside the universal conviction that he is dead.

"That he is completely and satisfactorily dead is a belief so comforting to the public that it is little less than a crime for him to attempt to disturb it. Since his decease, which must have occurred about ten months since, we have been spared those disheartening assertions, in regard to the awful effect of garters and corsets upon the souls and bodies of women, which during his lifetime Dr.

Lewis made either in print or on the platform at least once a month. Now that he is in his grave, we may perhaps forgive, and will certainly strive to forget, his offences. There is, however, one thing which the Public will not forgive, and that is any attempt on Dr. Lewis's part to come to life again. His death has been properly noticed by the press, and it is to be presumed that he has been properly buried. He can never convince unprejudiced men that he is not dead, but he can stir up a very bitter feeling against him by persistence in his preposterous claim to be still alive."

STATES' RIGHTS AND QUARANTINE.—Several State officers have said much that was not only foolish in regard to this matter of States' Rights and Quarantine, but have, unfortunately, done much that was equally foolish. It has been claimed by these misguided men that a national quarantine is unjustifiable, as interfering with the maritime and ports' rights belonging exclusively to each State. This is not the time for the discussion of this question, and it may be inferred that this JOURNAL is sufficiently jealous of the rights of the State, but one has only to read carefully the following order to be convinced of the wisdom of committing this whole question and power of quarantine to the general Government. The order is as follows:

"Washington, July 14.—Secretary Frelinghuysen to-day instructed, by cable, the consular officers at London, Liverpool, Marseilles, Havre, Bordeaux, Bremen and Hamburg to appoint competent physicians to inspect all vessels and passengers departing for the United States from the ports mentioned. The consular officers referred to are instructed to refuse clean bills of health in all cases except upon the recommendation of the Sanitary Inspector that such bills be given. The consuls are instructed to report by cable any case of infectious or contagious disease known to exist on board of a vessel at the time of her departure for the United States. This course is adopted in order that the health officers in our ports may have timely warning of approaching danger, and be prepared to take such measures as shall prevent the scourge from gaining a foothold in this country."

It is manifest that this excellent action would be impossible with a system of States' Rights Quarantine, as no State could institute such measures as those thus described, and furnish the great protection which such action secures to the American people.

THE TRUSTEES OF THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."—These gentlemen have a very important work to perform, more important than this Body had before it a year ago, for they have not only yet to organize a great journal, but to retrieve the errors of the past year, and to regain a prestige already most seriously damaged, if it is, indeed, not actually destroyed.

They should remember that they are an organized agency for the accomplishment of a really great work. They are publicly responsible for the efficient and faithful discharge of a most serious trust, which has been by them voluntarily and publicly assumed. If they have no fitness for the discharge of this duty, they should have declined to serve. They have, however, without exception, accepted the trust, and they are not only held publicly responsible for its execution, but they must suffer, and very deservedly, if this execution is not worthy of the opportunity and of the occasion.

Many of them are very good men, but they should remember that no man or men can live upon the past. That truth has already been demonstrated in the history of their journal. Whatever a man's past reputation may have been, it is indeed past, unless he faithfully works in the present, and for the future. Men that have been rated as able, and even as great, pass into obscurity and insignificance, unless the work of their present is worthy of the record which they have made, and of the position which has been accorded to them. There is no man in the present Board of Trustees of the Association Journal who can expect to escape public and severe criticism, if he relies upon his past work to sustain him for inertness, or weakness, or pliancy in the discharge of his duties as a trustee.

SPECIALISTS AND SHIPS.—A specialist is an admirable animal when he is engaged upon his specialty. The specialist does not shine, however, when he is considering his specialty in its relation to the sum of human interests, at least in countries where things are decided by people whose information is exclusively general. In Germany, where everybody is a specialist, they get over this difficulty by not having any public opinion.

The weakness of the specialist seems to have been exhibited in the discussions of the American Medical Association upon the medical service of passenger vessels. The bill prepared by the Association seems moderate and rational, but the discussion showed that to the exclusively medical mind, the traffic between Europe and America exists only for the sake of securing proper medical attendance upon passengers, and that all commercial and political considerations ought to give way to that primary object. One physician was of opinion that the bill was a good one, but "did not go far enough," inasmuch as the ship's surgeon should report, not to the captain of the vessel but to the "United States Government." Inasmuch as pretty much all the passengers who arrive in this country, or leave it, do so in English or French or German vessels, the suggestion of this requirement implies a hardened specialist. Another specialist allowed that "there was some question whether the United States has the right to legislate for foreign bottoms," which is putting it very handsomely, but he believed that justice and necessity gave it that right. He favored the plan "of making the doctor independent of the company," although the company is still to be permitted to pay the doctor. It was a valuable debate, indeed.

THE ARYAN VIEWS OF DOCTORS ONE THOUSAND YEARS BEFORE CHRIST.—The Aryans were a remarkable race. Their views of their doctors are commendable even now. Billings gives some of these views. Susruta advises medical students, "that they must utterly abstain from love and from hate, from anger and laziness, and from greed for gain. They must pay consideration to their external appearances, and have care that their clothing is appropriate and cleanly. They must be servants to the truth. They must show the same respect to the Brahmins, to their teachers in medicine, to their friends, and to all who turn to them for help. The doctor must wear his hair short; his nails must be clean and closely cut; he must never leave his house except with his cane or sunshade; and above all, he must avoid any undue intimacy with women. He must be handsome, well-built, amiable, earnest, but without self-conceit, friendly, and full of spirit; his speech must be soft, yet encouraging, as that of a friend; his heart must be pure and honorable; he must be a patron of cleverness and sagacity, and must love his patients better than relations, friends or parents. One may have a fear of a brother, a mother, or a friend, but never of his doctor." Besides the theoretical instruction by lectures and books, the student was trained practically by visiting patients, witnessing operations, assisting in the same, and practising upon models. Before he could begin the practice of medicine, each student was required to obtain the consent of the ruler having charge of the practice of medicine.

THE CONTAGION OF CHOLERA.—Each Doubting Thomas should read the following facts, confess the true faith, and repent him of his past errors and skepticism. The commander of the Sarthe persisted in going into Toulon Harbor, in spite of the energetic protests of his medical officers. The Sarthe had had four deaths from cholera at Saigon, near Tonquin, before she sailed, and 18 more deaths while going through the Red Sea. But the first death in Toulon did not happen among the crew of the Sarthe, but on board of the ship Montebello, then lying in the harbor. Still, visitors and merchandise had gone from the Sarthe to the Montebello; but the sailors on the latter who were first attacked had not been to sea for four or five years, and also had not been into Toulon or on board of other vessels of the fleet for some days. Other cases followed on board of the ships Jupiter and Alexandre, lying at anchor in the close, confined, and foul harbor of Toulon. It seems very certain that the Sarthe brought cholera to Toulon. It is openly admitted that there was some concealment on the part of the Sarthe, and perhaps other ships. When the disease was declared prevalent in Toulon the laws about disinfection of contagion which were enforced in 1790, or 94 years ago, were put in play, or those of the eighth year of the French Republic, under the orders of the consuls of the twelfth Messidor. All modern advances in disinfection were ignored.

THE PROPOSED S. D. GROSS PROFESSORSHIP OF PATHOLOGICAL ANATOMY.—The circulars sent out for the purpose of securing the endowment for such a professorship "in some medical School" have, it is supposed, been generally received. A letter on this subject is published in this number. The movement originates with the alumni of Jefferson Medical College, and it is only fair to suppose, if the amount desired is secured, that the professorship so endowed will be given to the college mentioned.

It is asking too much that such a chair, so endowed, and with money thus obtained, should be given to a *private medical institution;* and more particularly is this true, when the college mentioned is abundantly able, of its own resources to found such a chair in memory of one who has given to the college so much o money and renown. It is hoped that the fund obtained will be applied to some other purpose (with the consent of the donors), and that Jefferson Medical College will claim the honor of acting alone in the creation of the chair mentioned.

DRAMATIC CHARLATANISM.—When the negro Jefferson was hanged at Brooklyn, August 1st, a large number were given permission to attend. Among those who witnessed the infamous strangulation (occurring from bad management of the rope) were a number of physicians. Soon after death a *post-mortem* examination was made by Dr. E. C. Spitzka and assistants, in the presence, it is said, of several hundred of the rabble, and with the view of determining whether, as had been claimed, the deceased was insane.

Passing by the dramatic charlatanism of operating before such an audience (which action was a mere vulgar advertisement), and coming to the scientific aspects of the question, it may be asked, What could be the scientific value of such an examination? If the brain or its membranes manifested organic change, that could not, with men of ordinary sense, establish the fact of insanity; and if the brain or its membranes did not manifest organic change, that fact could not prove the non-existence of insanity. What fact could such an operation establish? It was (as all such operations are), in a scientific aspect, mere nonsense—a piece of dramatic charlatanism. The Profession has had to endure this absurdity quite long enough, and it is hoped there will be no more of it.

THE LATEST MEMS OF PASTEUR AND HYDROPHOBIA.—It is reported from Paris to the London *Times* that M. Pasteur's experiments with the virus of hydrophobia are going on with unbroken success. He has thus far experimented on fifty-seven dogs, nineteen of them mad, and thirty-eight bitten by them under uniform conditions. Out of these thirty-eight, half had been previously inoculated, the other half not. The latter, without a single exception, died with unmistakable signs of hydrophobia, whereas the nineteen others are about, and as well as ever. They will be watched for a year by veterinary doctors to see whether the inoculation holds good permanently or only temporarily. M. Pasteur's theory is that hydrophobia is produced solely by the bite, and if this is correct, a law compelling all dogs to be inoculated would in the end extirpate hydrophobia entirely, whereas if the disease arises spontaneously such an enactment would be less effectual. M. Pasteur's theory, however, seems to be gaining acceptance, and his experiments, whether they lead to the extirpation or merely to the diminution of this form of suffering, must be watched with interest.

ALMOST UNPRECEDENTED MENTAL LABOR.—Professor Alpheus S. Packard died suddenly on July 13th, and was buried under circumstances peculiarly impressive and memorable. He was Professor of Greek at Bowdoin College for over 60 years, and his death is a great blow to all who love culture, strength, fidelity and nobility. Has any one ever discharged such arduous mental labor for so extended a period of time? He had presided the day before his death at arduous and tedious commencement exercises; had introduced many, had made several speeches, had presided at the festive supper, and had spoken with memorable strength and eloquence. The modern American clergy deliver two addresses (of thirty minutes each) every week, and must have every year a summer's rest, with travel, and the tourist's pleasures and recreation!

INCOMES OF ENGLISH PHYSICIANS.—Of English doctors, Radcliffe made over $35,000 a year in the height of his fame; Mead, $25,000; Baillie, $45,000; Sir H. Halford, $55,000; and Sir B. Brodie, $85,000 in the year but one before his retirement, the largest income known. Radcliffe once received $8,000 as special fee for visiting Lord Albemarle at Namur; Granville $5,000 and his traveling expenses for a visit to St. Petersburg; and recently Sir W. Gull $5,000 each for two visits to Pau, and $7,500 for traveling to Perthshire and remaining a week with a patient. But the fee of fees was that received by Dr. Dinesdale in 1768 for inoculating the Empress Catherine and her son at St. Petersburg—viz.: $60,000 paid down, a pension of $2,500 for life, and the dignity of a baron.

FOOD FRAUDS.—The analyses made for the Board of Health of various articles of food and drink continue to reveal adulterations more or less injurious to health and altogether fraudulent in their character. Samples of mustard analyzed by Prof. Waller yielded only 20 to 25 per cent. of the genuine substance, the rest being made up of flour, terra alba, and a coloring matter known as Marsh's yellow. The latter is di-nitro naphtal, a poisonous substance very deleterious to health. The adulteration of articles of food and drink has become so common that the most rigorous measures of inspection and suppression ought to be adopted. The occasional exposures made by agents of the Board of Health will have but a trifling effect unless followed by penalties. The law on this subject are wholly inadequate, and are practically unenforced.

THE Secretary of War and Chief Signal Officer, as hygienic guardians of the Arctic explorers (Greely and his remaining party) are rendering themselves very absurd. These heroes have medical officers constantly in attendance upon them, they are watched, shielded, and supervised, in a manner that can only entail ridicule upon those commanding this to be done. If only a portion of this over-anxiety had been displayed earlier, when these men were starving from official blundering and neglect, Greely would have been at home a year ago, with his twenty-five men, alive and well. As it is, there are only six left to tell the tale of starvation; their nineteen companions rest in their graves, as historical evidences and mementos of official mismanagement. The past is past. Fussiness over the few living can be no atonement for the many dead.

"MEDICAL BRIEF" PRESCRIPTIONS.—The following prescription is given in the June number of the *Medical Brief*, without a word of editorial comment:

℞. Glycerine, 3 ounces; acid sulph., 3 ounces. M. Sig.: Shake well, and apply twice daily. This treatment is recommended for prurigo. The patient might be cured of the prurigo, but he certainly would need treatment for sulphuric acid burns. Probably the physician giving this prescription acted on the principle of the man who could not cure dyspepsia, but could throw the patient into fits, and he was death on fits.

Urinary Test Papers.—In the Pharmaceutical Department of this number will be found a very excellent and valuable paper by Messrs. Parke, Davis & Co., of Detroit, Michigan, in which is detailed, with great care and fidelity, the method for using the urinary test papers introduced to the profession by Dr. G. Oliver. Dr. Oliver's methods have been extensively adopted in Europe, and have given great satisfaction. The color scale used in connection with this method may be obtained by addressing Messrs. Parke, Davis & Co., who deserve the thanks of the physicians of this country for the trouble and expense incurred by them in connection with this interesting subject.

Dr. Octave Pavy.—It seems that, by later accounts, the body of this surgeon was not lost, but was brought home by the Arctic vessels.

It is also stated that, in addition to the sufferings of Greely's men in their last Arctic winter, they were not allowed to sleep more than two hours at any time. They had become so weak, and the circulation of their blood was so impaired, that to save their lives it was necessary to awaken them always at the end of two hours' sleep, and to compel them to exercise sufficiently to keep up the circulation. This was a fearful ordeal for such men.

Dr. Wesley C. Norwood, one of the most eminent physicians of South Carolina, and a medical writer of note, died at Cokesburg, S. C., July 16th, at the age of 78. Out of a handsome competence he gave large gifts of money to Wofford College, South Carolina, and Adger College, South Carolina. He was highly respected by the medical fraternity. Dr. Norwood wrote much in regard to the properties of veratrum viridie, and his name, for many years, was identified with that of this drug.

Another Epidemic.—The alarming spread of magnetic girls deserves the immediate attention of sanitary authorities. Since the first case appeared in the person of Miss Hurst four more Georgia girls have been attacked, and are now on their way north breaking umbrellas and otherwise displaying the terrible symptoms of magnetism. The disease is evidently assuming an epidemic form in Georgia, and it will be spread throughout the country unless strong measures are promptly taken.

The Cholera.—As late as August 6th nothing new in the treatment of this disease had been satisfactorily tried. Intra-venous injections gave the same old results, so did the warmth in the algid stage; strychnia and quinia yield no better results than those familiar to all. The microbe, living or dead, in the field of the microscope gives no further reliable clues or facts. The disease is slowly disappearing, as the material for it, the filthy poor, becomes less; but there are no new facts.

All Paths Lead to the Grave.—Such is the cynic's criticism of the allopath, the hydropath and the homœopath.

GAILLARD'S MEDICAL JOURNAL

AND

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(CONSOLIDATED.)

Scientia et Veritas Sine Timore.

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ORIGINAL ARTICLES.

Article I.—The Genito-Urinary Organs; their Physiology, Pathology and Treatment, with Cases and Authorities to Illustrate. By John J. Caldwell, M.D., Baltimore, Maryland.

ERECTILE TISSUES.

Boeckel and Kobett say that the erectile tissue is confined to the genital apparatus of the male and female, externally and internally, but Rouget considers as erectile every organ in which arterial or venous plexuses are submitted to the action of smooth muscular fibre. Hence he finds erectile tissues in the walls of the vagina, in the uterus, in the substance of the broad ligaments, in the wing of the ovary, and also in the iris. The vessels which carry blood in every direction over the body, viz., the arteries, veins and capillaries, are membranous tubes of variable size and form, possessed of an extraordinary amount of elasticity and contractility. These qualities vary greatly with the size and arrangement, quantity and quality of the tissue of which they are composed. Thus, in the meningeal capillaries, composed simply of spindle-shaped or polygonal cells, fitted together so as to form the finest of cellular membrane, we observe quite active vital contractility, which in the larger ones and in the arteries and veins, by the interposition of elastic connective and muscular tissues in their walls, reaches a degree of elasticity and contractility which intimately corresponds with the necessities of their function in different regions of the body.

VASCULAR TISSUES.

"The finest capillaries," says Jewell, "are composed of a delicate membrane, which is perfectly transparent and apparently structureless, until treated with a solution of nitrate of silver, when its cellular character is proved. In larger capillaries, which are situated nearer the arteries and veins, cellular membrane is strengthened by the addition of another delicate and homogeneous membrane, and in still larger ones, by an additional covering of a layer of delicate connective tissues. As the capillaries gradually merge into the ultimate termination of arteries and veins, the thickness of their walls is further increased by the fact that, between the two internal membranes and the layer of connective tissues, a thin layer of contractile fibrillar cells and distinct nuclei (arranged circularly around the longitudinal axis of the vessels) is interposed. All these layers observed in the larger capillaries gradually grow thicker and become more important, until, in the arteries and veins, we recognize the three distinct coats of the vessels, viz., external, middle and internal.

VASO-MOTOR APPARATUS.

"The peripheral vaso-motor nervous apparatus consists of a great number of small ganglia, situated on the walls of the muscular vessels, and give off nerve fibres to the same, and connect, through other ganglia, with the spinal cord, and act by reflex power from the vessel to the cord, or vice versa. Besides these nerves, certain others emanate from the spinal cord to terminate peripherally in the ganglia known as vaso-dilators, and are inhibitory, or act to arrest, in varying degrees, the vaso-motor action, thus diminishing the tone of the vessels and permitting them to expand under the pressure of the blood."

Now, as to the erectile tissue. There are certain parts of the body, male and female, which when excited become swollen and turgid with blood, and firm to touch. These sensibilities, and, indeed, all of the actions of such parts, appear the exalted when in a state of erection. The most peculiar phenomenon in this state is the sudden and remarkable accumulation of the blood in the erectile tissue at the time, and as the immediate cause of the erection. This action was formerly explained by the existence of a certain force peculiar to erectile tissues, called "nervi-erigentes," but the researches of later physiologists have discovered a peculiar mechanism in the tissue itself, by means of which the elongation is immediately produced, viz., it depends on pressure exercised on the veins or sinuses of the tissues by certain bands of muscular fibres, and hence the accumulation of blood, as the arteries convey it freely and rapidly to the tissues. These muscular bands are supplied by nerves in much the same way as the vessels from centres located in the spinal cord, and are often called the "nervi-erigentes." But no matter whether the congestion is produced by the action of the vaso-dilator or the vaso-motor apparatus, or by direct or indirect action on the muscular apparatus of the erectile tissue, we must, in either case, refer any influence transmitted to the parts in question to the spinal cord. This leads us back to a genito-spinal centre in the cord, vaso-motor, but, as we have seen before, no nervous centre can act of its own motion, or originate action *de novo;* it must be excited to action. This being so, we must look about for a suitable excitant influence to act upon the centres, that they may act upon the vessels, so as to cause, in one way or the other, congestion. For a long time it has been regarded as probable that the spinal cord has a direct influence on the organs of generation, but it was Budge who made the definite experimental observation in regard to the influence of the lower part of the spinal cord on the motions of the generative organs. He laid bare the spinal cord in a male rabbit, and at the same time exposed the testicle, the vas deferens and seminal vessel of the one side. By irritating the exposed lumbar portions of the cord he found, in numerous experiments, that irritation of that part which corresponds to the fourth lumbar nerve, produced active motions in the vas deferens and seminal vessels, the motion beginning at the testicle and being propagated toward the corresponding seminal vessels. The irritation of no other part of the cord produced such effects. These observations on the male, which have been often repeated with the same results, have also been made on the female, and movements of the uterus have been excited from corresponding points of the cord; therefore the development and escape of the seminal fluid and Graäfian vesicle are attended with no small degree of nervous excitement. Actuated from the same spinal centre, both male and female organs of generation become more and more congested and irritable as these phenomena increase, so that every impression, even every influence affecting these parts, must be reflected to and from the spinal cord; from these to the brain and to the external genitals. Hence we may readily perceive the relations existing between potency and the vaso-motor tonus of the genito-spinal centres, or impotency and the plexuses of these centres. In the latter case there could be no action and there would be a great loss in the fructifying powers of the genital organs, *i. e.*, enfeeblement of secretions, erections and ejaculations of the male, and a want of activity and ovulation and menstruation and evolution on the part of the female. Hence, all of the procreative powers are more or less dependent upon the aforesaid vaso-motors. The inhibitory action exerted by the sensory centres throughout the cord play a vitally important influence over the circulation, viz., periodical and rhythmical action of the heart, and respiration, blushing, rage, pallor and suffusion.

John Hunter says: "There is not a natural action of the body, whether voluntary or involuntary, that may not be influenced by the peculiar state of the mind at the time."

IMPOTENCY AND STERILITY.

Dr. Tanner says: "The term impotence (from in, neg., and possum, to be able) may be applied to every morbid state in either sex which prevents the seminal fluid of the male coming into contact with the female ovule. On the other hand, sterility (from a word meaning barren) is that condition in which either no spermatozoa or ovules are secreted, or their vitality is immediately destroyed."

IMPOTENCY IN MAN.

The act of copulation may be rendered impossible by many causes: by absence or want of development, or malformation or mutilation of the penis, by mental influence, violent emotion, passion, overexcited desire, want of confidence, anxiety, grief, disgust: the forms most curable by tact and skill on the part of the physician (see Montaigne's Essay, book I., chapter XX.). By fevers and other severe diseases, the sexual organs remaining feeble after general health is restored, curable by ferruginous tonics, nux vomica, sumbul, cantharides, Indian hemp, hypophosphate of lime or soda, sea bathing, nourishing food and stimulating liniments or gentle galvanism to the spine. By injuries to the back or part of the head from falls, blows, concussion, etc., these being generally incurable, loss of power and wasting of testes and penis follow. By injuries and disease of spinal cord, which remove the power to copulate, though desire remains and semen may be secreted. By excessive use of tobacco, which impairs digestion and weakens the nervous and muscular systems. Opium eating is injurious in like manner, and from the same cause. By abuse of the sexual functions, removing the power of erection. Onanism, or excessive sexual intercourse, spermatorrhœa, impediments to the escape of semen, such as stricture of urethra, in which the ejaculated fluid regurgitates into the bladder. Abnormal openings in the urethra (hypospadias and epispadias), so that the semen is not ejaculated into the vagina. By excessive obesity and large scrotal hernia.

IMPOTENCE IN WOMEN

may be due to firm adhesions of labia pudendi, excessively developed and persistent hymen, absence, malformation or an impervious condition of the vagina; obliteration of this canal through inflammation. A double vagina impedes but does not prevent copulation. Supersensitiveness, with spasmodic closure of the vagina (vaginismus). Tumor of vagina or uterine tumors which have passed into the vaginal canal. Elongation of the cervix uteri, engorgment or induration of labii uteri, or cervical canal. Closure of uterine cavity by tumors, cancers, etc. Malposition of the uterus. Acute retro-flexion and ante-flexion. Inflammation affecting the uterus. Occlusion of fallopian tubes, disease of fimbriated extremities. Irremediable procedentia of the uterus. Large recto-vaginal or vesico-vaginal fistula, or complete rupture of perinæum, allowing improper escape of seminal fluid. Uterine cancer, even when the vagina is involved, impedes but does not prevent intercourse and fecundation.

STERILITY IN MAN

arises from certain diseases, such as tuberculosis, diabetes, albuminuria and some forms of obstinate dyspepsia; in advanced stages the secretion of seminal fluid is usually stopped. Some cerebral defect, owing to which the functions of the tasticles have never been called into play. Disease of testicles, tumors, cancers, repeated attacks of varicocele, though as only one gland is usually affected these conditions scarcely produce sterility. Malposition of testes, these organs being retained in the abdominal cavity, copulation being feasible with the crypsorchis but the semen ejaculated being destitute of spermatozoa. Obstructions in the excretory ducts of the testicles, such as temporary or permanent obstruction after epididymitis, with power of copulating, but ejaculated fluid being destitute of spermatozoa. Obliteration of ejaculatory canals from abscesses near prostate leading to atrophy of the testes. Abuse of tobacco and opium and alcoholic drinks, as well as syphilitic taint, may destroy vitality of spermatozoa.

STERILITY IN WOMEN

arises from amenorrhœa, exhaustion or excessive general weakness, too frequent or imperfect sexual excitement, indifference to sexual act or a restraint of the orgasm. Absence, arrest of development, or disease of ovaries, only occasional, not absolute cause, as both glands are seldom diseased at the same time. Leucorrhœa, especially when the discharge is abundant and acrid, by causing destruction of the spermatozoa before they reach an ovule. Syphilitic taint occasionally destroys vitality of ovule.

TREATMENT.

Althaus says: "Impotency has often been electrically treated. Dr. Westring, a Swedish physician, has recorded the case of a man, aged 36, who had become impotent in consequence of debauchery. Erection was imperfect, ejaculation took place too quickly and without any pleasurable sensation. The patient was treated with the continuous current applied by means of metallic conductors, and had within a fortnight quite regained his virile power. Mr. Stacxuez cured a case of impotency by shocks from a Leyden jar; his patient was an officer, aged 35, who had been impotent for several years. Mr. Duchenne has been successful with faradization of the testicles and spermatic cord. Mr. Schultz and M. Raubaud have likewise seen good results from galvanic treatment of such cases."

Want of erectile power is a frequent cause of impotency and curable by electricity, unless it is caused by malformation or other serious pathological changes in the male organ. In such cases faradization of the ischio-cavernous and bulbo-cavernous muscles, which preside over erection, is useful. The same application may be resorted to in cases of sexual hypochondriasis, where patients for some reason or another imagine that they are impotent, but where virile power is not really impaired.

Anæsthesia of the skin of the sexual organs may be relieved by electricity. When impotency is caused by general malnutrition, diabetes, syphilis, blood-poisoning, or the habitual use of opium and hasheesh, excessive tea or coffee drinking, by overstudy and similar causes, a general treatment should be combined with the application of electricity. In such cases the hypodermic use of strychnia over the lumbar portion of the cord, together with galvanization, may restore the sexual energy without any local application to the organs themselves having been made.

Mr. Curling has shown that there may be capacity for sexual intercourse, but at the same time inability to procreate, or sterility; and that this inability in man may arise from malposition of the testicles, obstruction of the excretory ducts of the testicles, impediments to the escape of the seminal fluid and aspermatismus. Whether deficient secretion of semen may be improved or cured by electricity is at present not known. It does not appear impossible that it should be so, for electricity has considerable effect in arousing the activity of the vaso-motor and secretory nerves in general. By electrifying the skin we may produce erythemata and papular eruptions; in cases of amenorrhœa electricity is often instrumental in restoring menstruation; in paralyzed limbs which have been cold and flabby, a proper degree of animal heat may be induced by galvanization or faradization; a deficient secretion of semen may be increased, and lacteal secretion in women after parturition may be excited, and the secretion of tears, nasal-mucus, and of saliva is likewise stimulated by the application of electricity.

It therefore appears *a priori* not unreasonable to expect that the secretion of semen may be restored or improved by galvanizing the spermatic nerves or the testicles, provided, of course, that the want of secretion is due to paralysis of the secretory nerves of the organs, and not to the results of inflammation, cancer, tubercle or other pathological processes which destroy the structure of the testicles and therefore render secretion impossible. Observations on this point are as yet wanting, but in the absence of other remedies for the condition just mentioned, electricity, and more especially the constant current, deserve a trial. Spermatorrhœa may occur both during sleep and in the day time, and is generally the consequence of the passions being excited without an opportunity being afforded for their gratification. In nine cases out of ten spermatorrhœa comes on after masturbation has been practiced for some time, and constitutes a troublesome complaint, which is generally attended by symptoms pointing to a profound disturbance of the central nervous system. Mr. Curling recommends the application of nitrate of silver to the prostatic portion of the urethra in those cases which do not get well by constitutional treatment, and the occasional introduction of bougies, and his success appears to have been marked. Galvanization of the prostatic portion of the urethra may likewise be employed. It has the advantage that it can be readily adapted to the special sensibility of each patient, and that it causes no distress during or after the application if this be judiciously performed.

Again, as to the use of electricity in impotency. According to Benedict we should place the copper pole of the constant battery over the lumbar vertebræ, and pass the zinc pole forty or fifty times in the direction of the spermatic cord, then transversely over the different zones of the upper and lower surface of the thighs, and then likewise in the perinæum ; such a sitting should last two or three minutes. Moreover, about three times a fortnight the copper pole should be applied by means of a catheter—shaped round to the vicinity of the ejaculatory duct, and passes should be made with the zinc pole in the direction of the spermatic cord, if there are any particularly insensible places. Benedict uses Faraday's galvanic brush, and if the testicles are peculiarly insensible he passes a strong current through them. The sittings should take place every day, and should be continued for some time, as improvement did not take place for months in some cases. Shultz, in Vienna, has for a long time used the induced current for pollutions and impotency. Under this treatment the success was very poor ; but he claims that it is greater since he has commenced using the constant current. He places the positive pole over the fifth dorsal vertebra, the negative over the sacrum or to the perinæum. Each sitting lasts from one to three minutes, and they are repeated three or four times a week. Shultz employs a battery with twenty or thirty Stöhrer elements of medium size.

Gross says : " Impotence, or inability to copulate or perform the sexual act, is one of the most common of the derangements of the generative functions, and is due either to deficiency or absence of erection, or to congenital or acquired abnormal conditions of the genital organs, which render intromission of the penis impracticable. Hence, men who are impotent are usually sterile, the power of procreating children being dependent upon that of having connection; but as sterility, in the strict acceptance of the term, implies non-ejaculation, or emission of infertile semen, it will be discussed in a separate chapter."

Impotence may arise from diminished or abolished reflex excitability of the genito-spinal centre, or from disturbances of the brain which restrain the action of that centre; or it may be symptomatic of the prolonged use of certain remedies and beverages, or of various acute and chronic diseases; or it may depend upon congenital or acquired defects of the genital organs.

When the lumbar reflex centre for erection fails wholly or partially to respond to the ordinary stimuli, the resulting impotence may be termed atonic, in the sense that the centre is deficient in activity, mobility, excitability, or tonicity, through which the muscular walls of the arterioles and the muscular fibres of the trabeculæ of the erectile tissues are prevented from relaxing and admitting the requisite flow of blood into the penis, and through which the contractility of the ischio-cavernous and bulbo-cavernous muscles is impaired. Atonic impotence depends either upon or is maintained by inflammation and hyperæsthesia of the prostatic portion of the urethra, or upon diminished or abolished reflex excitability of the genito-spinal centre without the intervention of those lesions.

ATONIC IMPOTENCE FROM HYPERÆSTHESIA AND INFLAMMATION OF THE PROSTATIC URETHRA.

From independent researches, which were first published in 1877, I long ago reached the conclusion that impotence was generally induced by subacute or chronic inflammation and morbid sensibility of the prostatic urethra, which were frequently associated with stricture, and which were usually due to masturbation, gonorrhœa, sexual excesses and constant excitement of the genital organs without gratification of passions. Inflammation of the prostatic urethra bears the same relation to the spinal reflexes of the male that inflammation of the uterus bears to allied disorders in the female, and that it is a constant source of irritation of the genital nerves which terminate in that locality. An enfeebled state of the lumbar division of the cord and exhaustion of the cells that minister to its reflex functions are thus finally brought about.

In many cases the subjects had been confirmed masturbators, and had also suffered from gonorrhœa, so that it is impossible to say upon which of these factors the trouble depended.

With regard to mastubators who either never had sexual intercourse or had never contracted gonorrhœa, I find that one in every three has an elongated prepuce, one in every five has an inflamed meatus, one in every two and a half has an exquisitely sensitive urethra, that the same proportion suffers from prostatic or abnormal seminal discharges, and that one in every ten has a small, and usually a pointed and rigid penis.

I have endeavored to show that confirmed masturbation is just as sure to result in urethritis and the formation of a stricture as is gleet, and that the failure to discover this lesion would not have occurred to the majority of writers on the subject if they had resorted to the bulbous bougie for exploring the urethra.

Of the sixty-nine masturbators who suffered from atonic impotence, and of the seventy who had seminal incontinence, or of one hundred and thirty-nine in all, only eighteen were free from stricture, so that a coarctation should always be looked for in this class of subjects. In about five-sixths of the cases there is only one stricture, while in the remainder two or more are present. In about one-sixth of the entire number the contraction is situated near the meatus.

As the knowledge of the connection between stricture of the urethra from masturbation and impotence, prostatorrhœa, pollutions and spermatorrhœa is of the utmost importance in regard to the treatment of these affections, I have extended my investigations in this direction by an examination of fifty-six onanists in the Insane Department of the Philadelphia Hospital and the Pennsylvania Hospital for the Insane. Of twenty-seven inmates whose histories could be traced back, eighteen declared that they never had gonorrhœa. These were either epileptics, who, when their mental faculties are not enfeebled, are as capable of giving sensible accounts of themselves as others not so affected, or the subjects of chronic insanity or dementia, of whom it is characteristic that, if they remember anything at all, they can recall even the most trifling incidents that may have happened prior to the attack of insanity. In four other instances it was improbable that the patients ever had gonorrhœa, since they had been imbecile from childhood. In the remaining five cases the question of gonorrhœa could not be entertained, because the subjects were admitted at too early an age, and had afterwards never left the hospital. Their histories are briefly as follows :

Case 1.—An epileptic, aged twenty-three, admitted at the age of ten, had a stricture at six inches which was defined by a No. 18 bulbous explorer.

Case 2.—An epileptic, aged twenty-three, had been in the house twelve years, having been transferred from the Children's Asylum at the age of eleven. A stricture, calibre 19, was detected at six and a half inches from the meatus, which was contracted ; there was a gleety discharge, and the penis was large.

Case 3.—An epileptic, aged thirteen, an inmate for three months, suffered from phimosis, with a stricture, calibre 17, at six and a half inches, and marked prostatic hyperæsthesia.

Case 4.—An epileptic, aged nineteen, admitted at the age of eleven, had a stricture, calibre 19, at six inches, with a very sensitive urethra, and a gleety discharge.

Case 5.—An idiot, aged fifteen, an inmate for three years, had a gleety discharge, and a stricture, calibre 18, at five and three-quarter inches.

These five cases, occurring, as they did, in young subjects in whom the idea of gonorrhœa must be discarded, sustain the view heretofore expressed that organic stricture is a common lesion of masturbation. The coarctations imparted the sensation of a firm resisting obstacle upon the withdrawal of the bulbous explorer, and were distinctly recognized by Dr. Murray and Dr. Van Valzah, by Dr. Dease, Dr. Heath, and Dr. Musser. Exclusive of these cases, my notes show that thirteen out of every one hundred cases of stricture are due to onanism ; and Otis stated that nine per cent. of all cases are traceable to that practice. Ricord, Phillips, Leroy, Henry Smith, Gouley and Gross also mention masturbation as a cause of stricture; and my views are, moreover, supported by the evidence of other authors, who are more explicit in their statements than those just referred to. Thus, Black reports a typical case, associated with hyperæsthesia of the prostatic urethra, for which he was consulted on account of fear of sexual incapacity.

In speaking of the etiology of stricture, Wade says: "I have good reason to believe that the pernicious habit of self-abuse is a much more frequent cause of stricture than is generally supposed. In several instances of the kind, in which there has been no sexual intercourse, the strictures, which were at the bulb, proved more than usually refractory, from the extreme morbid sensitiveness of the entire urethral canal. The complication of spermatorrhœa with stricture and a highly irritable state of the urethra often proves very troublesome, and requires great care and gentleness in its treatment. Such strictures are, in fact, not infrequently caused by masturbation." Lizars asserts that stricture "is also often produced by self-abuse, since we find, in those affected with spermatorrhœa, that there exists more or less stricture of the urethra, for which it is necessary to dilate the canal before having recourse to the porte-caustique." Lallemand refers to two cases in masturbators who had never had sexual intercourse, in one of which the stricture was very tight and rebellious to treatment. Three-quarters of a century ago, Sir Everard Home, in his work on the subject, devoted a chapter to "Strictures Brought on by Onanism," but he classified them as spasmodic. In thus recognizing spasm of the urethra as an effect of masturbation, he described a condition which is the forerunner of permanent stricture, since, as is well known, spasmodic contraction is a very common cause of organic coarctation, and is, indeed, not infrequently found in connection with it.

In addition to the foregoing lesions, masturbation may be followed by other local affections, which are due mainly to the extension of the morbid action from the inflamed prostatic urethra. Among the more common of these are irritability of the neck of the bladder, prostatorrhœa, nocturnal seminal discharges and spermatorrhœa. It may also occasion spermatocystitis, funiculitis, epididymitis, aspermatism through obstruction of the epididymes or vasa deferentia and wasting of the testes. It is a fruitful source of azoöspermism. While in persons with an inherited predisposition to nervous diseases, as insanity and epilepsy, there is no reason to doubt that onanism may hasten their appearance, I believe that in the majority of cases it should be regarded rather as the effect than as the cause of these affections. From the constant occupation of the mind with the local trouble which it induces, it certainly does, however, give rise to a bad form of hypochondriasm, which is akin to insanity. Masturbation and sexual excesses are among the most common of the causes of general paralysis of the insane, and the disorder is supposed to extend upwards from the cord to the brain. An examination of four cases of this affection has convinced me that there is a source of reflex irritability of the cord in the urethra. In one, in the second stage, there was a stricture, calibre 21, at seven inches from the meatus. In another instance, in the first stage, there was a large granular patch at six and a half inches, and a gleety discharge. A similar condition was detected at six and a quarter inches in a man in the second stage, while in the fourth case, which was far advanced in the third stage, there was also a granular patch at six and a half inches, and the bougie brought away an abundant brownish fluid from the prostatic urethra. Whether these morbid states served as factors in the production of the disease, or simply maintained the nervous disturbance, I am unable to decide; but, if the former view be the correct one, functional conditions of the cord should be prevented from passing into organic changes by curing the peripheral sources of irritation in the first stage of the affection, or when the peculiar gait and slight trouble in speech are associated with extravagant ideas. I have never known insanity, dementia or phthisis to follow onanism, as they are said to do by Ritchie, Esquirol, Pinel, Deslandes, Maudsley, Smith, Acton and other writers, nor have I ever met with the distressing cases described by Lallemand, and I fully agree with Sir James Paget in the statements that "masturbation does neither more nor less harm than sexual intercourse practised with the same frequency, in the same conditions of general health, age and circumstances;" and that the ills which result from it when indulged in by young persons are due more to the "quantity, not the method." Unfortunately, however, it is begun earlier in life than coition; and as it does not require the co-operation of the opposite sex, it can be practised to a greater extent, and at all times and even when erection is incomplete. Of the remaining remote causes of atonic impotence, namely, gonorrhœa and sexual excesses, which induce and keep up hyperæsthesia and inflammation of the prostatic urethra, it need only be said that they are followed by precisely the same lesions as are met with in masturbation. In his classical writings on diseases of the spinal cord, Erb declares that sexual excesses and irregularities occupy a prominent position in the predisposition to and production of many spinal affections, among which may be mentioned spinal irritation, neurasthenia, chronic meningitis and myelitis, softening and inflammation of the anterior horns, or poliomyelitis; and this view is held by many other distinguished authors, as Rosenthal, Hammond and Romberg.

TREATMENT OF SPERMATORRHŒA AND IMPOTENCE.

In order to make this paper complete as an article of reference, I have collected the opinions of some of our principal surgeons, and give their various methods of treatment. Their peculiar views can be compared, and an intelligent opinion formed as to the respective merits of each mode of treatment.

Prof. Samuel D. Gross, of Philadelphia, in speaking of the treatment of spermatorrhœa says: "The milder cases, after riddance of the exciting cause, often recover spontaneously, or under the use of very mild means, as a proper regulation of the diet and bowels, exercise in the open air, cold bathing, sleeping upon a hard mattress; circumcision will be necessary when there is hyperæsthesia of the head of the penis from the irritation of retained sebaceous matter, consequent upon elongation and contraction of the prepuce. When the parts are morbidly sensitive, leeches may be applied to the perinæum, and use made twice daily of some astringent and anodyne injection, as a solution of acetate of lead and opium, in the proportion of three grains of each to the ounce of water. But a very different mode of management will be required when the disease is fully established, especially when it is dependent upon habitual onanism. The best local treatment then, at least in many cases, is cauterization, but before resorting to this expedient, the urethra should be well explored with a bougie or silver catheter, to ascertain the precise seat of the irritation. This will sometimes be found in front of the membranous portion of the urethra, but generally it is further back, at the neck of the bladder, or, more correctly speaking, at the orifices of the ejaculatory ducts and the anterior extremity of the gallinaginous crest, where it is often so great that the patient will shrink from the mere contact with the instrument. Occasionally the morbid sensibility is diffused over the whole surface of the urethra from one end to the other, and then the passage of the bougie is liable to be followed by excessive pain and even syncope. (Dr. Gross then describes the process of cauterization.)

" Instead of the solid nitrate of silver, a solution of the salt may often be advantageously employed, in the proportion of ten to twenty grains to the ounce of water. The fluid is conveyed directly to the prostatic portion of the urethra by means of a syringe shaped like an ordinary catheter, and perforated with numerous openings at the distal extremity. The injection should not be repeated oftener than once in six, eight, or ten days.

" Cold bathing, general and local, is often highly beneficial; dashing cold water against the perinæum, scrotum, penis and inside of the thighs is useful. Some persons, especially such as are of a nervous, irritable temperament, experience greater advantage from warm bathing than from cold. Occasionally marked relief arises from cold enemas repeated twice in the twenty-four hours. When the patient is plethoric, as is sometimes the case in the early stage of the disease, leeches may be applied to the perinæum, followed, if the local excitement is unusually great, by a blister, a small seton or issue. When the morbid sensibility of the urethra is very extensive, obstinate or persistent, the treatment should be aided by the injection, twice a day, of a weak solution of nitrate of silver and opium, in the proportions of about two grains of the former and five of the latter to the ounce of water. Sulphate of zinc, Goulard's extract and acetate of lead also answer extremely well in cases of this kind . . . . In some cases the irritability of the urethra promptly yields to the daily use of a full-sized bougie retained for half-an-hour at a time. The morbid erections so often present in spermatorrhœa are generally easily controlled by anodyne enemas, or by opium, belladonna and tartar-emetic given by the mouth at bed time.

" The patient must sleep upon a hard mattress, and everything stimulating, whether in the form of food, drink, or medicine must be carefully avoided. The bowels must be kept soluble by mild aperients. Exercise in the open air is an important auxiliary. Riding on horseback is injurious, as it has a tendency to create undue excitement in the genital apparatus. Sometimes an entire change of occupation affords more relief than anything else. Where there is great prostration of the system, with restlessness and loss of sleep, the use of tonics, as quinine and tincture of iron with hyoscyamus or opium, is indicated. Dilute phosphoric acid sometimes exerts a powerful restorative influence. In such cases a change of air, and the daily use of the shower bath, greatly promote recovery.

The diet should be light, but nutritious, and a glass of German wine should be allowed at dinner. Should there be reason to believe that the emissions are dependent upon cerebellar irritation, the chief reliance must be upon leeches and blisters to the nape of the neck, cold shower baths and other soothing measures. Much has lately been written in favor of lupulin as a sedative in this disease, but, though I have frequently employed it, it has never done any good in my hands. When such a remedy is required, the best article that I know of is bromide of potassium given three times a day, in doses ranging from twenty to thirty grains or under, with a few drops of tincture of aconite, in half an ounce of camphor water. I have also used with excellent effect, in a number of cases, bromide of ammonium in conjunction with tincture of cypropedium. The action of these medicines is powerfully sedative, and they are worthy of much greater attention than has hitherto been accorded to them in this particular class of affections.

"When, by the above measures, the system has regained its natural tone and the sexual apparatus its accustomed vigor, the best guarantee against relapse is marriage. Upon this point, however, it is impossible to be too cautious."

Van Buren and Keyes, commenting upon the subject, say: "When a man comes complaining of the results of masturbation, an attentive study of his symptoms will not infrequently disclose his disease to be hypochondria, and his malady ungratified sexual desire, with often some neuralgia of the vesical neck. His training should consist in encouragement and continence, with absolute purity of thought, and subsequently marriage, to regulate his sexual hygiene. After marriage it is rare to hear any further complaint from these cases, always provided there is really nothing more than functional derangement at the bottom of the patient's complaint, as is the case in the vast majority of instances.

"As for medicines, they are of little or no value. Camphor, bromide of potassium, or lupulin might be given as placebos, but it is doubtful if they are of any efficacy. Cold sponge baths, out-door sports, physical fatigue, sleeping in a cool room on a hard bed with a light covering are all useful. Eating lightly at night, not retiring until very sleepy, and rising immediately on waking in the morning, are powerful assistants in breaking up the habit, but all will be of no avail unless the *morale* of the patient be elevated, unless he keeps his thoughts pure, and desires, for the manliness of it alone, to be rid of his bad habit.

"The treatment of diurnal pollution is by steel sounds and local astringents to the prostate, together with most of the means detailed for nocturnal emissions. Circumcision should be performed if the glans penis is sensitive. . . . The use of the steel sounds and electricity help to give tone to the parts. The use of local astringents to the prostatic sinus is often of marked advantage. The best agent for effecting this is tannin, and the cupped sound the most convenient method of applying it. . . . The applications are to be repeated once or twice weekly, according to the effect, and often in a short time a change in the symptoms for the better is usually manifested in mild cases. Should these simple means fail, recourse may be had to prostatic injections with deep-urethral syringes, a solution of nitrate of silver, not stronger than five or ten grains to the ounce, being used. Failing with this, hope must be based upon the continuance of general and local tonic hygienic measures. The use of the fluid nitrate of silver with Lallemand's instrument is not justifiable, for fear of including the orifices of the ejaculatory ducts in an eschar, and obliterating them by cicatrization."

Professor Roberts Bartholow recommends cauterization with solid or liquid caustics, injection of astringents for relief of the local symptoms. In discussing general medication, under the head of "anaphrodisiacs," he says: "One of the oldest of these remedies is camphor. . . . It is not, however, a very valuable remedy. To produce the desired anaphrodisiac effects large doses are necessary; it frequently fails, and its action upon the stomach is unpleasant, giving rise to a sense of heat and burning and followed by disagreeable eructations.

"Lupulin has considerable efficacy as an anaphrodisiac, but like camphor it is uncertain. Conium and belladonna are quite as efficient, if given in sufficient doses, and are considerably more certain. Conium particularly is not given in doses sufficient to produce its peculiar effects upon the genital organs as ordinarily prescribed. Five to fifteen grains of the extract, according to its freshness and activity, may be administered at a single dose. . . . Conium and belladonna are, however, chiefly valuable when administered with bromide of potassium or other true anaphrodisiacs.

"The most important agent of this class, the most efficient and certain, and the least distressing in its immediate and remote effects, when purely administered, is the bromide of potassium. The anaphrodisiac property of this drug is now almost universally acknowledged, but the condition of its success and failure have not been as definitely determined as is desirable. There are yet some skeptics who disbelieve in this property of the bromide of potassium.

APHRODISIACS.

"These are indicated under certain circumstances. The tincture of cantharides is sometimes beneficial in cases of great atony and relaxation, those characterized by profuse mucous discharge, so-called diurnal pollutions, very feeble power of erection, and absence of sexual desire. It is contra-indicated when much hyperæsthesia of the prostatic portion of the urethra exists. To prevent its irritant effects, or at least to reduce them to the minimum, opium, or cannabis indica, or chlorodyne may be advantageously combined with it. The red, or amorphous, may be given in the same class of cases as suggested for the tincture of cantharides. Nux vomica is adapted to those cases in which it is desired to restore the functional activity of the sexual organs, after the state of quiescence induced by prolonged administration of anaphrodisiacs. Cimicifuga actea racemosa has seemed to me to possess considerable aphrodisiac power, and has proven useful in cases of long-standing spermatorrhœa, accompanied by nervousness and anxiety, and diminished sexual desire.

"Galvanism, especially the direct current, and static electricity are often decidedly aphrodisiac, and are probably applicable to more numerous cases than any other remedy of the class. The moral effect of galvanism is too important to be disregarded.

" Ergot has been much extolled in those cases in which emission takes place quickly with feeble erections.

" Iron, quinine, the vegetable bitters and mineral acids are indicated in anæmic cases. The hygienics, exercise, bathing, travel, etc., are valuable adjuncts to the remedial measures."

In his work on therapeutics, Dr. Bartholow also advocates the injection of a solution of ergotin near the dorsal vein of the penis, in order to compress it and promote erections.

Prof. Frank H. Hamilton says: " If the emissions are only occasional, and do not affect the general health, no treatment is required, and these constitute a majority of those cases which are brought under the notice of the surgeon. If, on the other hand, both the general health and the mental functions are sensibly impaired, as is sometimes the case, a careful inquiry must first be made to ascertain the cause, and the proper measures must be adopted for its removal. In nearly all of these latter examples there is evidence of a loss of tone in the entire nervous system, and it will be proper to recommend plain but nutritious diet, mineral tonics, cold bathing with frictions, and out-door exercise. All stimulating liquors and tobacco are hurtful. The emissions take place usually at night or towards morning, when the patient has become warm in bed and is sleeping soundly. In such cases the patient must be enjoined not to eat a hearty meal within four or five hours of retiring; he must empty his bladder before getting into bed; the bed should be rather hard and the coverings light, so that his sleep shall be less profound; he must lie upon his side, never upon his back, and if possible he should rise a little past midnight, or when he has been in bed about four hours, and, stepping upon the cold floor, empty his bladder again. A strict adherence to these rules seldom fails to prevent nocturnal emissions, and if the habit can be interrupted by these or any other measures for several weeks, the patient is on a fair way for recovery. The object in requiring the patient not to rest upon his back and to empty the bladder often is to prevent an accumulation of urine upon the trigone and neck of the bladder where its presence is liable, in children, to cause involuntary discharges of urine, and in those who are older involuntary discharges of semen. As a direct means of recovery from the morbid irritability of the neck of the bladder, no plan is more successful than the application of nitrate of silver, first suggested and practised by Lallemand, but the instrument invented by Lallemand, and employed by most surgeons up to a very recent date, has proved very unsuccessful and ought to be wholly laid aside. In addition to the numerous accidents which have attended its use, and which have from time to time been recorded by surgeons, it has happened, under my own observation also, that a young physician, who had borrowed my instrument, turned the style in the wrong direction, and broke it, leaving the cut containing the caustic and several inches of the cord in the urethra, from which it was with great difficulty removed by a narrow urethral forceps. Since then I have ceased to use Lallemand's instrument myself, and have never recommended its use to others, but I have employed instead a method similar to that which I have seen more recently recommended by Mr. Erichsen. A silver catheter furnished with a large number of small holes instead of the usual long fenestra at its vesical extremity, is introduced to the neck of the bladder, when a piece of sponge, fastened to the end of the wire stylet, and saturated with a solution of nitrate of silver, is carried forcibly to the vesical extremity of the catheter, driving the caustic solution out upon the mucous membrane. In the first experiment the strength of the solution is not to exceed five grains to the ounce. If this fails after the lapse of two or three weeks, ten or twenty grains to the ounce may be employed. Latterly I have obtained, in a few cases, benefit from the daily introduction of a steel sound of moderate size.

"Beyond these measures, all of which it must be acknowledged are liable to fail, nothing but wedlock can hold out much promise of a cure, and this has proved successful in my observation almost without an exception, not always immediately, but the improvement is generally manifest within a few weeks or months, and a complete cure can, in most cases, be assured after a year or two at most; nor, in general, need any fear be entertained that the results on the patient will be found to have been injurious. Beyond a temporary incapacity, resulting from a lack of confidence, no failure of the virile powers is generally experienced.

"I have omitted to speak of ligature of the spermatic arteries, ligature of the vas deferens and castration, all of which methods have occasionally been practised in extreme cases of onanism or entire mania. When practised for the cure of onanism these measures have, in most cases, been successful, but the relief has not generally been immediate."

Prof. Alfred C. Post sends me the following brief summary of his method in the treatment of spermatorrhœa and impotence: "I have regard to the constitutional condition of the patient and to the local irritation or congestion of the parts specially involved in the disease. As to the general condition of the patient, I combat debility as indicated by feeble pulse, pale complexion and muscular inertia, by tonic medicines, as iron and quinine, by cold bathing, local and general, especially salt water bathing, by regular moderate exercise in the open air, by nutritious diet, cheerful recreation and other appropriate hygienic means. When the prostatic part of the urethra is in a congested and irritated condition, I make gentle pressure upon it by the careful introduction of steel sounds, of as large a size as can be introduced without giving much pain to the patient. I repeat the introduction at intervals of two or three days. If the irritability be not relieved in this way, I make an occasional application of nitrate of silver to the prostatic portion of the urethra by means of Lallemand's porte-caustique or other suitable instrument. I sometimes derive benefit from the use of ergot, giving 30 minims."

The following remedy has proven so useful in the treatment of female disorders of the genito-urinary organs that I venture to offer these extracts and descriptions in connection with this paper:

CAULOCOREA.

Formula.—Caulophyllum thalictroides; viburnum opulus, viburnum prunifolium; aletris farinosa; dioscorea villosa; mitchella repens; spts. ætheris comp.

Mode of Preparation.—The ingredients are packed in a displacing vessel, the lower end of which is connected with a cold receiver, while the top is closed with a well-luted cover. Through an opening in this the vapor of alcohol is driven down through the ingredients. By this process we procure a concentrated fluid extract upon scientific principles, containing all the volatile and medicinal elements of the materials separated from the extraneous and inert matter. It is then converted into an elegant elixir, whereby the repugnant taste of the medicine is obscured, being all ready for dispensing.

The necessity having long been felt by the profession for a preparation of this kind, we present this medicine, being assured by the testimonials of some of the leading physicians of this country, and by our own observations, that it approaches as near a specific as anything in medicine.

Caulocorea is not a nauseous or disagreeable compound, but a perfect and elegant elixir, containing the active principles of several plants that possess in a high degree superior medicinal properties, so combined as to greatly increase their antispasmodic and tonic powers, making it far superior to any single drug.

It has been found to possess extraordinary curative virtues in prolapsus uteri, or any form of uterine displacement, imparting strength to the relaxed muscles and tone to the whole uterine economy, relieving the patient from the troublesome and pernicious pessary.

Says Dr. Milbourne, of viburnum prunifolium, one of the allied species of viburnum opulus, which is one of the component parts of caulocorea: "At 11 A.M., April 19, was called to see Mrs. W., found her suffering with a severe attack of pneumonia of the left lung. She was in her seventh month of gestation; severe lumbar pains. I recognized that the only chance to save my patient was to prevent abortion. Having but little confidence in the old remedies, under such conditions, I determined to try the new; was compelled to send for it, and did not receive it until 8 P.M., when the pains were coming on regularly every five minutes with considerable 'show.' I commenced giving teaspoonful doses of the fluid extract every hour; after the third dose all contraction ceased. I then ordered it every three hours for twenty-four hours. . . . . Since the contractions ceased the viburnum has been master of the situation. If this drug proves as useful in all cases as in this, it is invaluable. I can give it the whole credit in the case reported, for I used nothing else for that purpose."

Dr. E. C. Mann says: "As many cases of diseases of women, occurring in connection with nervous diseases, are annually treated, I desire to call attention to my own investigations with this comparatively new medicine. It appears to me to act directly and specifically upon the special nerves of the uterus as a true nerve sedative. I have had several very violent cases of congestive and neuralgic forms of dysmenorrhœa, being accompanied by epileptiform convulsions of a very severe type, and in each and every case I have seen almost magical relief following the use of the fluid extract of viburnum prunifolium. The case referred to, which was so severe that the intensity of the pain had worn out the unhappy sufferer and induced the epileptiform attacks, was completely cured in a few weeks by the combined use of the viburnum and the constant current of electricity. . . . . Previous to my using viburnum I had been accustomed to rely on valerinate of zinc and fluid extract of gelseminum, with the constant current of electricity, but since my first experience with the former drug I have used nothing else. . . . . It must be remembered, also, that my cases have been aggravated ones; many of my cases have been sent to Sunnyside on the verge of insanity. My conclusions therefore are that in viburnum we have a uterine sedative more powerful than any other in controlling dysmenorrhœa and uterine contractions, and that it probably acts by passing from the blood to the nerve centre, and is special in its effects upon the ganglionic nerves of the uterus."

The following are cases reported by Dr. Lowell:

Case 1.—Mrs. W., age 38, an intelligent, accomplished lady was treated during six months by three physicians, two of whom were at the head of the profession, without relief. The treatment prescribed consisted principally of tonics and nervines, such as iron, hypophosphites, acid phosphates, etc., and sedatives and narcotics, as digitalis, bromide potassium, hyoscyamus, chloral and opium. I was sent for and found the patient rapidly developing the symptoms of insanity—so much so that her friends feared she would have to be sent from home. Symptoms—great mental anxiety and depression, paroxysmal disorder of the heart, described as a rolling, tumbling sensation, with intermittent pulse; a sense of constriction in the throat, and sharp pains in the præcordial region, with constant fear of immediate death; headache and nausea attended by nightly exacerbations, dull, deepseated pains in the pelvic organs, epigastric pulsations, vertigo, restlessness, wakefulness and general hyperæsthesia.

Diagnosis.—Congestion of uterus and ovaries. Treatment—Caulocorea given in tablespoonful doses every three hours, continued for one week with constant amelioration of the symptoms; second week, caulocorea given every four hours, with a pill composed of the following ingredients, for the purpose of unloading congestion of the portal circulation and promoting hepatic secretion:

℞. Ext. nucis vomicæ; pulv. capsici; hydrastin.; sanguinarin; podophyllin, aa gr. v.; leptuadrin; ext. hyoscyami, aa sc. i.; ft. mss.; pill No. xx. Sig.: One pill a day.

Third week, same treatment continued; fourth week, caulocorea every six hours, pill discontinued, elixir ferri pyrophosphate substituted, one teaspoonful three times a day; this treatment continued to seventh week, when the patient was discharged well.

Case 2.—Mrs. C., age 27, medium size, light complexion, nervous temperament, subject to uræmic eclampsia; three pregnancies, followed each time between the third and sixth month with convulsions and abortion; urine loaded with albumen; treated as usual. As soon as the fourth pregnancy was discovered, commenced to take caulocorea, tablespoonful three times a day; continued for two months, when it was alternated every week with bromide potassium, ten-grain doses three times a day, and this treatment continued until delivered naturally of a perfect, healthy child, at full term; urine normal.

Case 3.—Mrs. G., delicate, leuco-phlegmatic temperament, subject to habitual abortion; four miscarriages and one premature labor, all treated the old way and with the old result. As soon as the next pregnancy was discovered, ordered caulocorea, tablespoonful three times a day, with ferruginous tonics and hypophosphites, a generous nutritious diet, and all excitement avoided. Extra exertions being taken in the kitchen on the fifth month, and through neglect in procuring from the druggist a new supply of medicine—having been without for several days—severe labor pains ensued; she was ordered to bed and teaspoonful doses of caulocorea given every twenty or thirty minutes; after the fifth or sixth dose all contraction ceased. It was then given every three hours for twenty-four hours, when she was again put upon tablespoonful doses until end of term.

Case 4.—Mrs. E., age 40, stout and plethoric; menses scanty and acrid; has been afflicted with pruritus vulvæ for six years and found no relief. Prescribed caulocorea three times a day, and almost immediate relief followed.

Case 5.—Mrs. L., age 33, has had leucorrhœa since 16 years of age; used tonics, alteratives and injections without avail. Ordered caulocorea three or four times a day, to be continued until cured. The patient took it for three months, when she discontinued its use, pronouncing herself well.

Dr. Goss says of viburnum prunifolium, "It has many properties in common with viburnum opulus, but differs somewhat in many respects. Both these plants have the smell of valerianic acid, and undoubtedly contain it. Its most valuable therapeutic use is its preventive powers over threatened abortion. For some twenty-five years I have used this article in cases of habitual miscarriage, and have never failed when I saw the case in time. It is a very positive remedy in after-pains. It antidotes Cotton root when the latter is used to produce miscarriage. It completely neutralizes the effects of gossypium, compelling the criminal mother, however unwilling, to carry her offspring to full term. As an anti-spasmodic to the uterus, it removes many of those harassing nervous symptoms that so often torment, wear down and disqualify the pregnant woman for the final parturient effort. In dysmenorrhœa I have found no remedy so prompt and kindly acting as viburnum. In menorrhagia it is a very valuable remedy; the viburnum opulus has similar effects upon the female reproductive organs.

Dr. Simon says, of the two viburnums, "Their action is supposed to be somewhat similar, anti-spasmodic, with a specific influence upon the uterus, nervine, anti-spasmodic, diurectic, astringent, tonic. The discovery of the medical virtues of viburnum opulus does not appear to have originated wholly with the profession, for long before any definite knowledge of its action had been published it was a common domestic remedy in painful affections of the female generative organs. With this shrub we have had more than ordinary experience, it having long been a favorite in a number of uterine abnormalities. In neuralgic and spasmodic dysmenorrhœa of old standing we have given it with more satisfactory results than obtained from any other single remedy, and in case of recent development it rarely fails to effect a complete cure. Its employment in menorrhagia and metrorrhagia, although conditions morbidly dissimilar to the above, has, when unaccompanied with organic disease of the uterus, proven more effectual in our hands than any other means. Intra-uterine leucorrhœa is cured by this remedy. We claim viburnum opulus as a direct uterine tonic."

Dr. Egan, speaking of caulophyllum, says: "It is a uterine tonic of the highest order; its specific use is to give tone to the reproductive organs of the female. Aletris farinosa is another uterine tonic not inferior to caulophyllum."

Dr. Duncan says, "Without fear of successful contradiction, that aletris farinosa stands unrivaled as a uterine tonic. I have used it in irregular and suppressed menstruation and have yet to see one single failure."

Dr. Egan says: "Dioscorea villosa is a specific in bilious colic, and allays gastro-intestinal irritation; and that mitchella repens exerts a direct influence upon the reproductive organs of the female, giving tone and improving functional activity. It has been extensively used as a uterine tonic to promote menstruation."

Dr. Hale says, of viburnum opulus: "It is very effective in relaxing cramps and spasms of all kinds, as asthma, hysteria cramps of the limbs and other parts in the female, especially during pregnancy. It is highly beneficial to those who are subject to convulsions during pregnancy or at parturition, preventing the attacks entirely if used daily during the last months of gestation."

Dr. Prudy says that viburnum opulus is a powerful uterine sedative. He is satisfied that if a fresh preparation of the drug be used many cases beyond the reach of therapeutic aid might be relieved.

Dr. Egan says there can be no doubt of the efficacy of these remedies, as evidenced by the reports of the most distinguished gentlemen of the profession, and the question arises, Why are these drugs not in more general use? The answer is trite, Unless combined with correctives and aromatics to disguise the vile and nauseous taste and appearance, patients cannot be induced to take them. Such is the experience of the profession. As a matter of fact, uterine tonics and sedatives act better when combined than when given in galenical prescriptions.

Dr. Lowell realizing this, and requiring for his own use a preparation efficient and at the same time pleasant, has presented to the profession a combination of the best known uterine tonics and sedatives under the name of *caulocorea*. In dysmenorrhœa we have cases where the flow is both excessive and deficient in quantity. By the curative influence of caulocorea, these two opposite conditions are alike relieved. For pains in the back and headache, the above may be relied on as a speedy dispeller. In many cases of prostatorrhœa and spermatorrhœa it has been equally successful.

ARTICLE II.—THE GERM THEORY OF MALARIA. By W. P. HART, M.D., Washington, Ark. Read before the State Medical Society of Arkansas, at the Ninth Annual Session, Little Rock, April 30th, May 1st, May 2d, 1884.

From a time almost immemorial, "and beyond which the memory of man runneth not to the contrary," the fact has been observed and recognized, that there existed a morbific something, potential in the production of disease, which manifested itself in Protæan shapes, in different localities and in the midst of various and numerous surroundings. In the absence of definite and fixed information and knowledge of this morbific principle, and as a suitable blind and shield behind which to hide our ignorance, it has been called and named malaria, or miasm, which, being interpreted, means "bad air." It floats in the gentle zephyr wafted from the South, and rides in the snowstorms of the North; greets the sun at his rising in the East, and abides at his setting in the West. Mountain tops, plains and valleys alike are its places of abode. It lives beneath the burning suns of the tropics and dwells in the icy regions of the North, where the thermometer registers a degree of cold below the freezing point; yea, away below zero. Almost all climes, as well as all seasons, appear to be its birthplace—"its seed-time and harvest." What element or ingredient is it in this malaria, miasm or bad air, that imparts to it its poisonous or morbific properties? There are present in it extraneous materials, otherwise it would not be bad or malarial. Are these foreign and noxious materials (I say materials, for no one is so wild and foolish in his ideas as to contend for the immaterial nature of malarial disease) germs or micro-organisms? All germs are material, but the converse of the proposition, that all materials are germs, is not true. A germ is something that is to develop an embryo, an ovary, a bud; as the germ of the fœtus, a plant, or flower; and the adherents of the germ theory of malaria contend that this germ enters the blood by absorption, inhalation, or otherwise, and then increases and reproduces itself by zymotic action, and works its lesions primarily and solely upon the blood, and through that upon the entire body; while the opponents of this theory contend that in the present state of our knowledge of the nature, habits and effects of micro-organisms, no such conclusion is warranted or demonstrable. It is true that at the present time, and for ten or fifteen years past, a mighty bacterial wave has been overflowing and deluging the medical world, bearing down and sweeping all opposition before it; and when demonstrated truths and established facts have fallen short of meeting and fulfilling the sanguine and buoyant hopes and expectations of the adherents of the germ theory, they resort to inferential conclusions and, as is usual when new theories and innovations take the control and lead of the medical mind, enthusiasts rush to the front and set up claims for their germs as etiological factors of disease, by inference and supposition, which are not warranted by demonstrated facts and discoveries. Great energy and research are being expended upon a supposed and assumed bacillus malariæ; the keenest eyes, aided by the most powerful microscopes, are searching for it in the Pontine marshes and in the snows of the highest mountains, while the blood and the excretions of the body are being examined and scrutinized to learn the lesson taught by them; and the science of materia medica and therapeutics is evoked to lend a helping hand; and the promise contained in the present status of our knowledge upon this subject is in pregnant possibilities, while nothing positive, absolute and conclusive has been accomplished. It may be thought presumptuous impudence in me and all similar insignificant tyros to *entertain*, much less utter a doubt as to the truth of a theory which boasts as its adherents and devotees so large a number of the proudest intellects of the medical profession, and before whose lustrous and effulgent brilliancy lesser lights pale and fade, like the little stars before the coming sun; yet, while even their teachings and conclusions are only declaratory and inferential, they are open to the misgivings of doubt and skepticism as to their truth and soundness; and, in this free country of ours, it is not only our privilege, but our bounden duty, to give utterance to and make known our difficulties in connection with this theory of disease, and thus have our erroneous views, if they prove to be such, corrected. If malaria be a germ, or a germ be the essential cause of malarial disease, we would expect and conclude that this germ, like all other creatures, was the product or result of certain definite, fixed, combining and co-operating agencies, which would always produce the same results; that its generation and reproduction are subject to fixed laws, and that in the absence of those essential causes and laws it would never exist. Oxygen and hydrogen combining in certain definite proportions, water is the product. Oxygen and nitrogen combined in certain relative proportions constitute the atmosphere we breathe. These same elementary principles or agencies combined in other proportions produce acrid, deadly poisons. Organic chemistry is abundant in such results, while the physical world is equally bountiful in furnishing examples of the fixity and immutability of the laws presiding over "generation, growth and decay." And this germ—the result of the operation of certain specific causes and laws—when produced, and itself acting as a cause, should be just as definite, specific and unerring in its operations and effects as the laws that governed its generation and production.

With these plain and simple propositions in mind let us examine the localities, surroundings and operating causes claimed to be most favorable and prolific in the production of malaria or malarial germs. Bartholow says, and I quote from him as the representative of a class, "Marshes or moist alluvium, subject to overflow and exposed to the action of the sun, by reason of evaporation or subsidence of the water, is peculiarly active in the production of the poison. In this country malaria is produced more from the sandy alluvium of the river valleys subject to annual overflow and heated by the summer sun." In this quotation are contained three factors essential for the production of the malarial germ, namely, heat, moisture and alluvial deposits that contain animal or vegetable substances. He says again "that marshes that are partly brackish are worse than those entirely fresh;" and this would appear contradictory, for salt is an antiseptic, and should exercise an influence antagonistic to germ existence. But the agencies mentioned above are those universally recognized and acknowledged as being most potent in the generation of malarial diseases, and wherever these causes exist and operate, though weakened and mitigated, the same results will be developed but in a moderated degree. The results will bear a direct ratio to the causes producing them. If the three essentials, heat, moisture and alluvial deposits, are indispensably requisite for the production of malarial germs, they will, most assuredly, not be produced in the absence of those causes, nor of any one of them, if their continued action be necessary for their production. They will germinate in the presence of and under the combined influence of those causes, but not in their absence. While many localities are ripe and pregnant with those causes, are they coexistent with the prevalence of malarial disease which seems to be almost ubiquitous? If the combined action of heat, moisture and alluvial deposits, as found along the river-bottoms and borders of marshes and lakes, are essential for the production of your malarial germs, how will they be generated, suppose you, in localities where those causes do not exist, as in hilly and mountainous regions, where two of the factors, moisture and alluvium, are so nearly absent that they signify naught as etiological factors in the production of disease germs, and in latitudes far to the north of us, when the other factor, heat, is down to and below zero? In our midst here, during the month of January, when the thermometer scarcely registered a degree of heat as high as the freezing point, and from that down to zero, with but slight moisture and no alluvium, malarial diseases were quite, if not more frequent, than during last summer ; while away up in Michigan, where one, at least, of the factors, heat, was absent to a sensible and distressing degree, their existence, in obstinate and virulent forms, is reported in every weekly issue of our medical journals. Now, if a germ be the poison of malaria, or be malaria itself, as the germists teach, and the combined action of certain definite factors is essential for its creation or generation, how is it that we find your germ, whose presence is evidenced by its effects, in localities where these essential factors do not exist? Will you reply that surgeon Smart found them in the bosom of the Rocky Mountain snow-storms, wafted from some afar-off Pontine marsh, God only knows where, swarming and teeming with bacterial life? Do you know that these little creatures generated in a hot-bed could withstand and outlive the freezing embraces of snow and ice? If they will generate, thrive and prosper, rocked in the cradle of the howling, tempestuous snow-storm, why invoke the effects of a summer heat as one of the essential factors for their production?

Again, when this germ has been produced by certain fixed and definite causes and laws, and becomes to be an etiological factor itself, it should be just as definite and specific in its effects as the causes that produced it. Now let us look at this germ through its effects as manifested in the production of disease. Under the heads of miasmatic and malarial diseases, Bartholow places the following: "Cholera, diphtheria, cerebro-spinal meningitis, influenza, asthma, whooping-cough, mumps, intermittent and remittent fevers." Would the identity or similarity of these diseases, in their symptoms, the organs attacked or their pathological manifestations lead us to conclude that they were the effect of the one identical baccillary cause? What resemblance is there between cholera and mumps, or cerebro-spinal meningitis and asthma, or diphtheria and whooping-cough? or what is the identity of any or all of those with intermittent and remittent fevers?

Perhaps you will say that, while these are all germ diseases, each has its separate and distinct bacillus. But Professor Bartholow, an adherent of the germ theory of disease, classifies all of them under the heads miasmatic and malarial, thus restricting you to the malarial bacillus. Nor is he alone in such applications of the words miasmatic and malarial, because, from present appearances, the indications are that ere long but few causes of disease will be recognized as such unless there be a bacillus mixed up with them. It will not do to attribute different results to the same cause, any more than that different causes will produce the same results. This is the very battle now being fought by Koch for his bacillus tuberculosis, and he is required to make good this proposition—that his discovered bacillus is the absolute, essential cause of tuberculosis, and without its presence no other agent is adequate to produce the disease; that it will ever produce tuberculosis and nothing else, and that there is no tuberculosis in its absence. Now apply the same rigid and exacting laws to your malarial germ, and what becomes of the long array of diseases claimed to be produced by it that bear no shadow of resemblance to each other? Who believes that the same pathogenetic cause, bacterial or otherwise, that produces cholera, produces mumps, or that producing diphtheria the same produces whooping-cough? Tried by rigid tests, how can you conclude that the causes any of the above diseases are the same as those of intermittent or remittent fever? If your germ theory be true, I suggest, for the existence and reputation of your germ, if nothing more, that you confine and restrict it to its legitimate diseases and discard the loose, slip-shod expressions in regard to this, that and the other malarial diseases that bear no likeness to each other in their etiology, semeiology or pathology.

Thus far I have tolerated, for the sake of argument, your assumption that a germ was the essence of malaria, but now I deny it, and demand of you the proof to make good the proposition. According to Koch, who will not be ignored as good authority upon bacilli, to establish a causative relation between a germ and any disease, three facts must be established beyond doubt or cavil: First, the discovery of the germ in the diseased organism, in its secretions or excretions; second, the germ must be capable of cultivation out of the body, and isolated from all living material and other germs; third, the germ so cultivated must be capable of being reproduced in the living organism of the original disease. These three propositions established, the proof is satisfactory and conclusive; and without this proof your theory goes for naught. And if any of you are willing to accept the germ theory of any disease upon less conclusive evidence than that demanded by Koch's propositions, you can congratulate yourselves upon being more expectant and credulous than others, who, being a little more exacting and careful, are slower in their conclusions. Now, I put the question direct to each and every one of you, to name the man who has ever complied with these propositions, or any one of them, in his efforts to establish his germ theory of malarial diseases? Are you startled at the absurdity of the question? I beg of you to possess your minds in patience for a time and let us examine some of the discoveries that have been heralded as proving the germ theory of malarial disease.

And first that of Salisbury. Several years ago he proclaimed to the world that, in his investigations in the valleys of the Ohio and Mississippi rivers, he had discovered, in the algæ or spores of the palmella, the real, the *sine-qua-non* cause of malarial fever; and one of the attributes or peculiarities of these spores was that they did not rise more than one hundred feet above the level of the sea, and that he established the causative relation between these algæ or spores and malarial fever by placing clods containing them in windows of houses three hundred feet above the sea's level, at which altitude he produced intense attacks of malarial disease; that these attacks would not have been produced but for the presence of those spores, and that they never rise to that altitude unless transported for the purpose of testing their etiological powers in the production of disease. The notorious fact that malarial diseases do prevail at a greater altitude than one hundred feet above the level of the sea is enough to explode this theory ; but to show that the intermittent fever he supposed to be produced by his spores at an elevation of three hundred feet was not dependent upon them at all, Dr. Harkness, in the *Boston Medical and Surgical Journal* for 1869, tells us that, in opposition to Salisbury's declaration that his spores never rise more than one hundred feet above the sea's level, he had found them upon the snow-clad peaks of the highest Alps in midwinter. And if this vaunted discovery, heralded throughout the length and breadth of the land, had been what its author claims for it, and that it settled and fixed forever and a day the germ origin of malarial disease, and swept all doubts and conjectures from the causative nature of the disease, why have subsequent investigators been less fortunate in their discoveries and convictions?

Why is research still being made for this unknown cause? Why the doubt and mystery that still rest as a pall upon the medical world touching this same disease-producing factor? Why has his theory not been accepted and acted upon as an established fact? I answer all these questions by one short, simple reply—the theory could not stand the crucial test contained in Koch's requirements for the existence of micro-organisms. Falsehood and absurdity were branded upon its forehead, and research and investigation are being pressed as assiduously in quest of this hidden cause as before Salisbury announced his discovery.

Next let us examine Burdon-Sanderson's pyrogen. He claimed that he had found, in this agent, the potential and essential factor of malarial disease; that by inoculating it into the healthy subject he could produce well-marked characteristic malarial attacks, and that consequently he had made the long-sought discovery. But the same objections lie against his theory that I made against Salisbury's. If his pyrogen was the long-sought cause, and its pathogenetic powers dependent upon a germ, why did he not follow up his boasted discovery with repeated cultures and inoculations, reproducing his pyrogen in the subjects upon whom he made his inoculations. But without waiting, or being unable to do this, and observing that a person had a chill after insertion of his pyrogen, though most probably the result of septic action, and almost certainly not dependent upon zymotic action at all, he proclaims his discovery to the world, and it has played no more brilliant *role* in satisfying and quieting the restless and inquiring mind than did that of Salisbury. Next let us examine the reported discoveries, and the theory based upon them, of M. A. Lovereau or Loveron, first announced to the world in an essay upon the parasitic nature of marsh miasm, April 28, 1883. In the minds of some physicians this production has clinched and riveted the germ theory of malarial disease, and, coupled with the discoveries of Salisbury and Burdon-Sanderson, has placed that doctrine upon firm and solid ground, beyond doubt or dispute. He tells us that he has collected the histories of 228 cases of malarial disease, and in those 228 cases he had failed to detect his pigmentary elements, which he claims are the parasites that produce malarial diseases, only in 44 cases ; and assigns as the reason he failed so often that he was just beginning his studies in this department and did not know exactly under what conditions it was necessary to place himself that he might find the pigmented elements of the blood. This theory is based upon the presence of these pigmentary elements; that they are the positive and infallible cause of malarial disease, that will always be developed when they are present in the blood. He says he examined 228 patients and failed to find his pigmentary elements in 44, nearly 20 per cent.; and yet, with so small a number of experiments and such a large percentage of failures, rushes before the medical world and proclaims his discovery as the solution of the difficult problem which has and is still eliciting so much earnest research and investigation. He tells us that 48 examinations of the blood were made a few hours before the paroxysm of fever, and in every instance the pigmentary elements were observed; 95 examinations were made during the febrile paroxysm, with 12 negative results, or one failure in every eight cases; 82 examinations were made a few hours after the paroxysm, and eleven failures, or one in every two and a half cases. Such are the facts and data upon which this theory rests. What, suppose you, would Virchow, Tyndal, Koch, Formad, or any other scientific micrologist say to such conclusions drawn from such premises? And to bolster and fortify himself in his discovery, he tells us that he had shown his pigmentary bodies to more than twenty confrères, and the most skeptical had declared to him that they retained no doubt of the animated nature of these bodies; and then, all buoyant and triumphant with the perfection and demonstration of his discovery, he exclaims, " Therein is a *very clear* and *very evident result* of *observation.*" By short turns and nigh cuts he arrived at conclusions and results that Koch never thought of when he prescribed his tests and requirements for the proof of the existence of micro-organisms. And in the very next line to that containing his " very clear and very evident result of observation," he says: " The natural history of these parasites of the blood presents, to tell the truth, more than one obscure point yet." As a matter of course it does, and if he had kept his theory down, which evidently was being advanced solely and alone in the interest of theory and not of science, and prosecuted his researches and investigations under the guidance and direction of the laws promulgated by Koch, doubtless he would have discovered more obscure points in their natural history than had hitherto presented themselves to his mind. Lastly, he says: " It would be very desirable, without contradiction, to add to these proofs that furnished by the inoculation (he skips the cultivation) of these parasites." But pleads as an excuse the difficulties and dangers of the operation, and says: " The parasitic elements, which are found in the blood of patients suffering from paludal disease, appear to me to be characteristic enough, from a morphological point of view, to allow us to dispense with the counter-proof furnished by inoculation."

Is not that impudence and cheek sublime? And does it not prove that his whole object and effort are to establish and bolster a theory regardless of the results upon science, begging to ignore and discard the very test of all tests for the existence and potentiality of his pigmentary bodies? Suppose he or any other man were to go into Koch's pavilion, or that of any other scientific investigator, and propose that, in their efforts to determine the nature and status of parasitic bodies, they dispense with their culture and inoculation, and, relying alone upon their morphological appearances, they announce their discoveries and theories, based upon them, to the world. Would he not bring down upon himself and his suggestions their utmost scorn and contempt, as a knave or fool, and be ordered out and told to go quickly, and not to stand upon the order of his going? The theories I have examined above are the most prominent that have fallen under my observation put forth to establish the germ nature of malarial diseases, and, they all being different, they contradict each other.

Numerous others have been evolved from the brains of bacterial enthusiasts with fewer claims upon credulity and acceptance; and if we were to draw our conclusions from claims set up by some of them, the inference would be reasonable, that in order to be safely protected against the germ hosts that swarm about us, our faces should be provided with muzzles, stuffed with absorbent cotten, and that saturated with some parasiticide, and our nether ends furnished with a similar protection. It seems to me that the utter failure to establish the germ theory of malarial fever, after so many years of the most arduous research and earnest investigation of the giant intellects of the profession, aided by instruments of the greatest magnifying powers, would suggest the propriety and importance of turning their investigations into other channels of research. Hope and possibilities are all that are left to cheer and encourage in the present popular lines of inquiry, while signal defeat is the crown of every effort made. You will not understand me as inveighing against the use of the microscope in the study of the etiology of disease, which has rendered yeoman service, or of ignoring its triumphs, which are of the grandest nature; yet I do object and protest against the idea of ignoring and discarding, as is generally the case at this present time, almost everything and every condition, as an efficient factor of disease, unless, under the magnifying powers of instruments, it can be discovered and classified as belonging to micro-organisms. While the fact has been proven and demonstrated that bacterial agents are the cause, and do produce some diseases, as witness the discoveries of Virchow, Pasteur, Tyndal, Koch and others, yet their failures up to the present, in regard to many other diseases, and malarial fevers among the number, are equally conclusive against the doctrine of their germ nature. I am aware that the bent and disposition of the medical world is to simplify, and this tendency is leading in the search for micro-organisms, as causes of disease, and tending to reduce every cause to that plane and level, while there is manifested a disposition to shun and ignore everything, as a cause, that operates in a more hidden and abstruse manner. I am firmly impressed with the belief and conviction that, if our giant intellects would turn their instruments and thoughts more from the etiology of disease, and fix them for a time upon its pathology, brilliant discoveries would be the fruits and triumphs of their labors. If, by reducing all diseases to germ origin, the knowledge and successful treatment of them would be rendered more simple and satisfactory, the boon to doctors, and especially to their patients, would be inestimable; and the discoverer would be a benefactor, entitled to our most devout and sincere gratitude. But if this be impossible, simply because the proposition is not true, wisdom, as well as common sense, would suggest that in our researches and inquiries we follow the lead indicated by diseases in their symptoms and results, and the therapeutical effects of the remedies employed for their alleviation and cure. Are there no other causes to which malarial fever can be attributed than those of germ origin? Are there no septic agents that are capable of rendering the air malarial or bad? Are we driven to this narrow strait? Viewed in the light of the prodromic and subsequent symptoms of malarial attacks, do they indicate that the fell stroke is made upon the blood by germs, and that all that follows is but the result of their action there? Even if a patient's blood was alive with bacteria, do you know that they would produce the feelings of lassitude and weariness, the backache and muscular soreness, the irresistible inclination to yawn and stretch, and other like symptoms of which patients suffer in the prodromic stage of the disease? Bartholow says "that exposure to cold, errors of diet, fatigue, mental anxiety—a variety of causes of sufficient force to disturb the functions, may excite a new attack," and that without the intervention or agency of your germ. If these causes are adequate to produce a new attack, will you or he please inform me why they cannot produce an old or original attack? Is the cause of a new attack another and different from the cause of the first attack?

Bartholow says again, "the most common form of pernicious intermittent is that affecting the nervous centres." And what evidence has he or you that, if pernicious intermittent makes its stroke upon the nervous centres, ordinary intermittent does not do the same thing? Are the causes of ordinary and pernicious intermittent different, other than as to their intensity and potentiality? Are not their effects the same and manifested upon the same organs, only more aggravated and deadly in the one case than in the other? And what evidence is there that there is a germ in the blood in either case, or that the blood suffers any injury or alteration, except as the result of the action of the poison (and that not a germ) upon the nerves that preside over and maintain its vitality? I submit this broad, plain proposition, that the pathological changes observed in the blood of patients suffering of malarial disease are but the effects, the results, of perverted action of vaso-motor and trophic nerves, and not of micro-organisms, as claimed by the adherents of the germ theory. But more on this point hereafter.

Now, then, for a short time, let us examine the nature of malarial diseases by the light of the therapeutical effects of the agents employed in their treatment and cure, and as the cinchona salts and alkaloids are the universally acknowledged specifics in these diseases, I will confine my remarks mainly to them, and chiefly among them to sulphate of quinine. How does this agent act, and through what organs, in curing malarial diseases? Does it exert its curative effects as a parasiticide? Most assuredly so if the cause of the disease be a germ. I am aware that quinine is an antiseptic, but I submit that it is not the most active and powerful. And let me suggest just here, once for all, and I wish you to remember the fact, that an agent may possess antiseptic virtues and yet be totally insufficient as a germicide. Schulte, Binz, Rossani and Kerner, in their experiments, have established the fact that quinine lessens the oxidizing or ozonizing function of the blood; but does that fact establish more than its antiseptic virtues? Binz and his pupils have shown that it lessens the activity of the movements of the white corpuscles; that it inhibits their amœboid movements, and destroys them or arrests their production, though Schwalbe, Geltwasky and Schetschefoljow contest these views, while the observations of Cutter and Bradford show that quinine increases the relative proportion of the white and diminishes the red corpuscles. But admit all that Binz claims as true, does that prove that the white corpuscles, which are a natural component element of the blood, useful and indispensable in nutrition and reproduction, are germs producing deadly disease? Ignore and discard, if you please, every effect of quinine upon the nerve centres, and through them upon the various organs of the economy, which are most marked and decisive, and take for granted, as true, every pathological observation made upon the blood, and every chemical or vital effect of quinine thereon, and do you find in all of it anything that warrants or even hints at the conclusion that malarial disease is of germ origin and that quinine cures it as a germicide? But in opposition to the views of Binz and others, touching the effects of quinine in arresting and inhibiting the amœboid movements of the white corpuscles, and in destroying or arresting their production, Gettowsky has shown and proven that this cannot be done in living warm-blooded animals with less quantities than fatal or lethal doses. If the enemy be a germ in the blood, why not attack it with agents devoid of any special effect upon the nervous centres, and whose characteristic property and province are those of a germicide, as bichloride mercury or iodine? In what school, book, journal or sick room did you ever learn that corrosive sublimate and iodine were the specifics for malarial fever; while you well know that you cannot introduce either of them in quantities sufficient by ten-fold into the system, to be efficient as a germicide, without killing your patient. Again, if a germ be the cause and etiological factor in all malarial diseases, the same curative agent, as a germicide, should be equally effective in all attacks and types of these fevers. Putting aside all other diseases of a malarial nature, let us examine, under this proposition, intermittent and remittent fevers and malarial hæmaturia. No one questions the malarial origin and nature of these three fevers, nor will any allopath deny the specific virtues of quinine in the cure of the first two. It is true there are exceptional cases, but these exceptions only serve to establish the applicability of the rule. If there be a specific for a disease in the whole range of the materia medica, that specific is quinine in intermittent and remittent fevers; but can it lay claim to or boast the same specific virtues in the cure of malarial hæmaturia? I am aware that there is a diversity of opinion upon this subject; that it is still subjective, and that probably a majority of physicians, when called to treat cases of this fearful malady, always administer quinine; but for several years past, in fact, since I saw my first cases of it, I have had my doubts and scruples about the propriety of the treatment, especially after the kidneys give evidence of structural injury. Twelve years ago there was an essay read before the Hempstead County Medical Society by Dr. W. C. Smith, now of California, at that time my partner, upon the nature and treatment of malarial hæmaturia, and he took strong ground against the use of quinine, contending that it was not only worthless and inefficient, but positively hurtful and injurious, and his arguments and conclusions were based upon clinical observations of the disease in our midst at the time. To say the most that could be claimed for it was, that it was negative and not curative, if not positively injurious. Other physicians give it, and their patients show a good per cent. of recoveries, and the malarial and germ nature of the disease being firmly rooted and grounded in their minds, they rely upon it with implicit confidence, knowing that quinine is the specific for malaria. *True as to malaria, but not as to germs.*

I will put this question to those who advocate the use of quinine in this disease, Do you know that the same patients who recovered under the use of quinine would not have recovered without it? You say you gave it to your patients and they recovered, but your neighbor-doctors A., B. and C. gave none, and they report a like, if not a greater percentage of recoveries. Are you sure that you are not extolling and elating the curative powers of your remedy at the expense of nature's recuperative energies? Upon this point the statistics that have fallen under my observation are meagre, yet I have enough to indicate that quinine, instead of being a specific and boon in this dread disease, is a positive curse. Dr. E. D. McDaniel, of Camden, Alabama, reports 18 cases of malignant malarial hæmaturia, and of the 18 cases 13 recovered, 5 died; 12 took quinine, 6 did not. There were 5 deaths, and every one of them among those patients who had taken quinine, while there was not a death among the 6 who did not take it. And then follows a report of 6 cases seen in consultation. Quinine was taken by all of them and there were 5 deaths and 1 recovery, a little over 83 per cent. dying. Shortly after the publication of the foregoing statistics by Dr. McDaniel, Dr. R. D. Webb, of Livingstone, Alabama, published some contra-statistics. He gave the results of 33 cases which went directly to contradict those of McDaniel. Near the close of his report, in commenting upon the six recoveries of McDaniel without quinine, he says, "the positive result of six recoveries in the six cases treated without quinine is of more value, but, while it teaches us that cases may and do recover under this plan of treatment, it does not follow that other plans are necessarily wrong. Notably among other plans of treatment claimed to be successful is the use of atropia, hypodermically, by Dr. W. C. Jackson, of Montgomery. He says, "I use no other remedy to counteract this condition, and, relying solely and alone upon this Samson, it has never failed me." Believing, with Dr. Jackson, that atropia acts powerfully upon the vaso-motor system, I should feel disposed to supplement the quinine by atropia; but it will require a much wider field of observation than the few cases treated by Dr. McDaniel without quinine, and by Dr. Jackson with atropia alone, before we may feel justified in discarding quinine in this disease, which is confessedly malarial and paroxysmal." I have made this quotation mainly to call your attention to his remark in regard to atropia and its effects upon the vaso-motor system, and to which I will call your attention again. Directly Dr. McDaniel comes back to Dr. Webb with a report of 178 cases, and I will only detain you with his summing up of the cases and his comments thereon. "Of the 178 cases, 126, or 71 per cent., recovered; 52, or 29 per cent., died; 85, or 48 per cent., took quinine; 93, or 52 per cent., did not take quinine. Of the 85 cases with quinine 50, or 59 per cent., recovered; 35, or 41 per cent., died. Of the 93 cases without quinine 76, or 82 per cent., recovered; 16, or 18 per cent., died. Thus the death-rate in the cases with quinine is 23 per cent. heavier than in those without quinine, an excess greater than the entire death-rate in the cases without quinine. Taking these rates as a basis, if the whole 178 cases had been treated with quinine, there would have been lost 21 lives more than actually were lost under the divided treatment, and 41 more than would have been lost had all been treated without quinine. And on the same basis, if the whole 178 cases had been treated without quinine, there would have been saved 20 lives more than were saved under the divided treatment, and 41 more than would have been saved if quinine had been used in all." Since this report, Dr. Webb has failed to enter his appearance any more. As stated before, while these statistics are meagre, they are significant. All acknowledge the identity of the cause producing remittent and intermittent fevers and malarial hæmaturia; and while quinine is a sure and certain specific for the first two, its use, to say the least of it, is of doubtful propriety in the treatment of the last. If, then, the cause of all these diseases be the same, and that cause be a germ, and quinine its germicide, why is it not equally curative and powerful in its parasiticide effects in all these diseases? And as the gravity and intensity of germ diseases are proportionate to the numbers or quantities of the germs producing them, why are the effects of their germicides not more markedly manifested in the cure of the severer and more malignant attacks, in which there is a better field for the exhibition of them? How is it that quinine will neutralize and destroy the germ in one type of fever, confessedly malarial and paroxysmal, and utterly fail to destroy the same germ in another type of the same fever, equally confessedly and intensely malarial? Will you plead, as an excuse for the failure, the great numbers and quantities of the germ? A proportionately great quantity of their germicide should subdue and destroy them. A patient has a slight chill today; to-morrow he is up and going about, nominally well; on the following morning he falls into a congestive or pernicious chill, and in a few hours is dead. The course and result of such a case would indicate the greatest number of your germs, if there be such, and yet quinine is the giant specific; and no doctor, unless he were a mountebank or fool, would rely, in such a case, upon corrosive sublimate or iodine, the two most powerful germicides known. Every one recognizes and acknowledges the fact that these diseases are all produced by the same causes, and you may ask, Will not the same arguments and objections be equally applicable, let the cause or causes be what they may? I think not; we will test that matter after a little. Now, then, as somewhat corroborative of my ideas of micro-organisms, as causes of disease, I will make a few quotations from editors of medical journals, who stand as watchtower sentinels to keep us advised and posted as to medical progress and discovery, as well as all other matters pertaining to the welfare of the profession, and whose conclusions and enunciations should be unbiased by prejudice or theory.

The editor of the *Medical News* (December 8th, 1883) reviews the report of the German cholera commission sent to Egypt to study and find out the cause of the epidemic of cholera prevailing there. In a previous issue he had reviewed the report of the French commission sent upon the same errand. Koch headed the German and M. Straus, under the auspices of Pasteur, the French commission. After noting and commenting upon the marked differences revealed in the reports of these commissions, under the control and direction of such acute micrologists, he says: "It is evident, from these diverse results, that our knowledge of pathological micrology and its investigations is still far from that preciseness which will allow us to attach any great value to observations by whomsoever made and upon whatever disease, except, probably, the parasitic skin diseases and one or two only of the infectious diseases—malignant pustule and relapsing fever." Dr. N. S. Davis, editor of the *Journal of the American Medical Association*, in his leading editorial, headed "Annus Medicus" (January 5th, 1884), says: "In general and special pathology many valuable additions have been made to our knowledge. More than a year ago a strong impetus was given to the investigation of germinal pathology by Koch's discovery and demonstration of the bacillus of tubercle. As usual with the advent of innovations, more was claimed by enthusiasts, as the result of these investigations, than is warranted. The professional mind has now realized that, in this discovery, more is indicated in the way of possibilities than is absolutely determined in regard to the nature, progress and communication of phthisis." Again: "The past year has witnessed the steady progress of surgical opinion towards a realization of the fact that the value of antiseptic methods consists, for the most, in cleanliness and drainage, and little if anything beyond." Again he says: "In obstetric practice, the greatest advance of recent times springs from the growing opinion that puerperal fever is not, as heretofore regarded, the result of a specific germ, but that it is identical in its nature with surgical pyæmia and septicæmia." And just here I might call your attention to one little short and solitary expression of Keith's, in the College of Physicians and Surgeons, London, about two years since, that fell like a thunderbolt from the clear skies upon the advocates of Listerism, and knocked Lister's great speech upon that subject entirely out of him. I will next quote from R. J. Dunglison, editor of the *College and Clinical Record*, Philadelphia After noticing the labors of the German and French commissions to Egypt, their discovery of micro-organisms in the intestinal tract and the blood, and their inability, by *culture* and *inoculation*, to establish the fact that these monads and microbes were the true and only cause of cholera, also after referring to the observations made by different experimenters attempting the establishment of the germ theory of different diseases, he says: "With regard to the question of the general relation of microbes to disease, the evidence has been undergoing a sifting process during the year, and the so-called germ theory of disease still has powerful opponents. There are some evidences that the bacillus craze is on the decline." And, in passing, he states that Pasteur had recently made the significant admission before the French Academy of Medicine, "that bacilli were not the sole and efficient cause of glanders, since their inoculations were not always followed by identical results." And after noticing the reported discovery of bacilli as the cause of several diseases, such as yellow fever, whooping-cough, pneumonia, erysipelas, cerebro-spinal meningitis and syphilitic growths, he says: "These reports show the active spirit of research that has been going on in pathology; but none of them has succeeded in the demonstration, so much needed for the establishment beyond question of the germ theory of disease—that it is the microbe, *per se*, which causes the peculiar perturbation in the system which is recognized by characteristic symptoms." Such are the deliberate convictions and enunciations of medical gentlemen of recognized ability and precision of thought, and who are, presumably, by virtue of their editorial positions, elevated above the bias, strife and contention incident to theoretical investigations. They are the gleaners and winnowers who are to separate the grain from the chaff; to try and test the truth or falsity of reported discoveries and theories, and to approve and commend those that are true, while they brand with the seal of falsehood all that are but the emanations of the brains of enthusiasts.

Gentlemen, you now have my principal objections to the doctrine of the germ theory of malarial diseases, and, doubtless, this question has suggested itself—if the cause is not a germ, what is it? I reply that it is *no one thing or agent.*

As stated at the outset, for the want of a better term, or rather in the absence of more perfect and definite information, it had been called malaria, which means bad air; and this air, rendered bad or malarial by whatever cause or causes (it matters not) adequate and sufficient to produce morbific results to excite paroxysms of fever, is the active and immediate cause of all malarial disease. I say active and immediate, because there are other causes operating in the production of these diseases, which I will denominate concurrent or predisposing causes; and the result of the combined action of these predisposing and exciting causes is malarial disease. This doctrine of the combined action of predisposing and exciting causes in the production of disease was recently set forth most beautifully and forcibly by Professor Flint, senior. He says: "The special agent is an essential factor; and another, not less essential, is the existence of the requisite concurrent co-operating conditions. The nature of these conditions is unknown, but the fact of the necessity for their existence in the causation of disease is as certain as if they were known. We may embrace these conditions under the name predisposition. If the special causative agent be a micro-organism, it is customary to say that, like certain plants, it needs for its growth and multiplication certain peculiarities of soil. The term predisposition embraces these peculiarities. The two factors in the causation, namely, the special causative agent and the concurrent co-operating conditions embraced under the name predisposition, in their application to yellow fever, were compared by the late Dr. Barton, of New Orleans, to the two blades of a pair of scissors: their efficiency depends upon their being joined togother; separated, each is powerless."

Although Professor Flint wrote the above in regard to tuberculosis, is not the same fact manifestly true and applicable to malarial disease? Embracing under the head of predisposing all those agents, conditions or causes that tend to debilitate, prostrate, enervate and lower the normal standard and tone of health (and their name is legion) as one blade of the scissors; and under the head of essential or exciting all those agencies and factors of sufficient force to suddenly disturb and derange the functions, as the other blade of the scissors, and the pair is perfect. How thoroughly and perfectly this applies to and explains the prevalence of malarial diseases in localities so diverse as to their topography and thermometrical conditions. It accounts for and explains their prevalence in places far to the north of us and in midwinter, when the thermometer registers the degree of temperature down to and below zero, where not one of the agencies claimed to be essential for the production of your germ exists; and also explains the greater prevalence of these fevers in localities further south, under the combined action of heat and moisture, the two most powerful factors in relaxation and enervation. Moderate cold is a tonic, but intense cold is a powerful sedative and depressant, while warmth and moisture are always debilitating; and these agencies exert their influence upon the system through the nerves and their centres. Subject yourselves to the depressing effects of severe cold, or of heat and moisture, or of any other agents or conditions, as grief, fatigue, mental anxiety, etc., that have the force to reduce the standard of health below the mean, as concurrent or predisposing causes; and then add the co-operating effect of some essential or exciting cause, I care not what it may be, an indiscretion in diet, for example, which, under different circumstances, would not be an indiscretion, and you fall sick of malarial disease, and that without the agency or intervention of your germ. Their development is the result of a definite soil and an indefinite irritant, nor are they the result of extraneous causes alone. Imperfect digestion, that fails to suitably prepare the aliment for nutrition and reproduction, and inefficient excretion, that stops short of perfect elimination of the excreta—the ashes, the *débris*—of digestion, furnish abundant causes of disease. In view of our fearfully complex natures, the wonder is that we live at all. The doctrine opposing the germ origin of malarial diseases is corroborated by the prodromic and first symptoms developed in attacks of fever, which are purely of a nervous character. The first stroke is made upon the nerve centres, as viewed by the light of the symptoms, and the subsequent phenomena manifested in the different organs are the result of perverted nerve action. Disturb normal, healthy innervation and you have, as the result, perverted or disturbed circulation, calorification, absorption, secretion, elimination—in a word, every function of the economy is interrupted, just as we see them in attacks of malarial fever; but just as long as healthy innervation is maintained, the functions over which it presides will be maintained in their integrity. Will your hypothetical micro-organisms in the blood explain and reasonably account for the sudden overwhelming and death of a patient in pernicious chill? Can it be explained upon any other hypothesis than that of fatal shock to the nerve centres and consequent paralysis?

The evidence as to the nature of the causes producing malarial diseases is not restricted to their manifestations and symptoms, but the physiological effects upon the economy of their specific, quinine, furnish additional evidence. As the primary and prominent effects of these causes are exerted upon the nerve centres—the subsequent phenomena, exhibited in perverted function in the various organs, being but the result of impaired nerve action—so the prominent effects of quinine are exerted directly and mainly upon the nervous system.

How quinine cures a chill I do not know any more than you know how morphine produces sleep, but the fact that these agents do produce these results is patent and evident; and while we do not understand the philosophy of the cures wrought by quinine, we can observe its effects upon the system as exerted *mainly*, if not *entirely*, upon the nerves and their centres. Mark me, and I wish to emphasize this fact, that the only *proven* and *established* physiological effect of quinine upon the economy, outside of nerve intervention, is the impairing and lessening of the oxidizing and ozonizing powers of the blood; and the most that could be claimed for it upon that score is that it is an antiseptic, or certainly not the equal of bichloride mercury or iodine as a germicide.

I will give you, as compiled from Bartholow, the effects of quinine upon the economy, as proven and established by the latest and most thorough researches upon that subject, and I wish you to note carefully whether there is any evidence contained in them going to prove that it works its curative effects as a germicide. In doses of from 2 to 5 grains it increases the heart's action, but in large doses depresses it. It produces hyperæmia of the intracranial circulation. Favier first observed that in large doses it depresses the heart, arrests it in diastole without impairing its contractility, and lowers the arterial tension. It acts on the cardiac-motor ganglia, enfeebling the heart's movements, and lowering the vascular tension. Immersed in a quinine solution, its movements are quickly arrested. It lessens, and ultimately abolishes, the reflex function of the spinal cord. It depresses the functions of the sympathetic system. In the normal condition, given in small quantities, it stimulates nutrition and increases the excretion of waste products—urea, uric acid and creatine extractions, etc.—but (and here I wish your special attention) in considerable doses the opposite condition obtains, the decrease in the quantity of uric acid is especially well marked, and when administered in malarial fevers all the products of waste are greatly increased. It depresses the function of respiration.

Do you see in all these effects anything resembling the action of a germicide, or of anything else except that of a powerful agent exerting itself upon the nerve centres? And can you not see a cogent reason in these effects, as related above, why quinine would be interdicted in malarial hæmaturia? Here the stroke and shock have fallen upon the kidneys; organic or structural injury is inflicted upon them; they are the chief excretory organs of waste products, and especially of urea and uric acid: the very agents that threaten, and will, by their retention, kill your patients. Already they are unable, in consequence of structural lesions, to eliminate these noxious elements, and quinine aggravates the trouble in a twofold sense, first, by increasing the waste poisonous products to be eliminated, and, secondly, by further crippling and incapacitating the kidneys by cutting off their proper nerve supply.

Quinine is the specific for malarial diseases in which the disturbance is functional, dependent upon perverted nerve action (not a germ in the blood), and not upon structural lesions, as in cases of malarial hæmaturia. Hence its good effects in cases of intermittent and remittent fevers, but not in severe cases of malarial hæmaturia. And if we could find some agent whose effects were directly the reverse of those of quinine (and upon examination you will discover that atropia is that agent), well might we exclaim, with Dr. Jackson, that we rely upon it, if anything, as the mighty Samson in the treatment of this terrible malady. Try it; it is worth the trial. And I would ask, Do you find anything in the therapeutical or physiological effects of either quinine or atropia that would lead you to accuse either of them of being a parasiticide? It does seem to me that a little more attention to, and application of our knowledge of anatomy and physiology, as well as the therapeutical effects of remedies, would steer us clear of numerous difficulties and absurdities into which we have fallen. Again, the parasitic origin and nature of any disease being fixed and established as such, it is placed beyond the reach and control of therapeutic agents, unless its location be in situ, when the remedies can be applied direct to the diseased parts.

Various and numerous substances which are known to be destructive of micro-organisms outside of the body are inefficient when employed either by inhalation or internal administration, because you cannot give them in sufficient quantities, or in forms sufficiently concentrated, to work their germicide effects without injury and destruction of the tissues of the lungs, or producing toxæmia in the blood. Koch's discovery of the bacillus of tubercle was wonderful, and a long stride viewed in an etiological and pathological light, but therapeutically it has left us just where we were before he made that discovery. It has taught us the importance of the most rigid hygienic measures, while we have learned, by the light of that discovery, no surer or better curative agents than we were acquainted with before.

And the same is true of every other disease of germ origin when the seat of attack is beyond the reach of direct application of their germicides. And just here, in my humble judgment, is one of the surest and most sensitive tests, aside from actual observation, that can be made of the parasitic nature of any disease. It is true there may be diseases, whose causes are other than micro-organisms, not curable by remedies, as witness some of the neuroses; but whenever and wherever you find a disease that is amenable to and curable by therapeutic agents, administered internally or by inhalation, that disease is not of germ origin, but the result of the action of other causes. This idea is of my own suggesting, never having seen it hinted at before; but I believe I am warranted in the conclusion, in the present state of our knowledge of agents as germicides, and the quantity that would be required of either of them in the blood to render them destructive of micro-organisms. They should be effective in tuberculosis by inhalation, where their application is almost as direct as if the trouble were upon the surface of the body, if effective at all; and yet, in this case, if a sufficiency of the parasiticide be brought into direct contact with the bacilli, to destroy them, the injury to the tissues would be so great as to preclude their employment. And if they are inadmissible and ineffective in this almost direct application, how could you ever introduce enough of them into the blood to render it incompatible with germ life? In attempting such an undertaking, will you not have killed your patient long before you have succeeded in destroying the germs producing his malady?

I then conclude that, as it is impossible to introduce a sufficient quantity of any known germicide into the system to cure diseases of germ origin, no disease of such origin and nature is curable by the internal administration of therapeutic agents; and also that, as the malarial diseases are the most amenable to and curative by the administration of remedies, they show the least evidences of all others of being bacterial in their nature.

Now, then, at the close of this essay I wish, by way of recapitulation, to call the attention of those of you who endorse the germ theory of malarial disease to a few points upon which I hope you will enlighten us:

1. How does the bacillus malariæ generate, thrive and prosper under such diverse circumstances and surroundings?

2. How can it manifest itself in such diversified effects, and produce so many different diseases?

3. Will not the same pathogenetic cause always produce the same disease as its effect?

4. Will different bacilli produce the same diseases?

5. It will not do to invoke the aid of any other bacillus to do the work of the malarial bacillus, though the existence of fifty or a thousand others be proven.

6. If there be a bacillus malariæ, and quinine be its destroyer or germicide, why is it not equally effective and potent in all diseases produced by it?

7. To determine the existence of a malarial bacillus three propositions must be proven and established: First, it must be discovered; second, it must be cultivated; third, it must be capable of being reproduced.

8. The existence of a germ determined and established as above, three propositions must be proven to establish its causative relation to malarial disease: First, that it will always produce the same disease and nothing besides; second, that nothing else will produce it; third. that malarial disease will always be produced by it and nothing else.

The above propositions must be proven to a demonstration to establish the existence and causative relation of your germ to malarial disease, and without this proof your palmella spores and algæ, and pyrogen and pigmentary elements, and all the bacillus twaddle of germ theorists, amounts to nought, and is but fit rubbish for the waste basket.

ARTICLE III.—A CURIOUS CASE: RECOVERY FROM MEMBRANOUS CROUP AND WHOOPING-COUGH: TRACHEOTOMY. Reported by a Virginia Lady.

A few days since a little eight-year-old son of Dr. Wm. Stephenson, of Berryville, Va., while suffering from whooping-cough, developed a case of membranous croup. He was attended by Dr. R. P. Page, who tried every remedy which science and a long experience could suggest, but without avail. The morning of the third day found the child in the agonies of death. His stertorous breathing was audible beyond the house; features purple and swollen; and head and feet bent backward like a person in convulsions. It was evident to all that a few moments must end the struggle.

In this emergency, Dr. Page determined to perform the operation of tracheotomy, which, in this case, to be of any avail must be rapidly effected, and very low down in the trachea, below the thyroid gland, so as to be below the membrane. But before the necessary preparations were completed, the little sufferer ceased to breath, though there was still a slight pulsation about the heart. The physician cut rapidly, and in a few moments the incision was made and the tube inserted in the apparently lifeless child. The process of inflating the lungs was then commenced with forcible expiration and inspiration, until a long sobbing breath shook the frame; and again all was still. The "breathing operation" was repeated again and again, until life was fully restored, and the breathing became involuntary. The child is now out of danger, though he is still breathing through the tube, which he will have to retain so long as the whooping-cough lasts. The membrane is entirely dissolved, and he breathes through his mouth as well as through the tube.

Sept. 1.—Child had severe whooping-cough; wore tube twenty-eight days.

Dr. Page was assisted in the operation by Dr. S. S. Neil, of Berryville.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

GUNSHOT WOUND OF THE BRAIN.—Dr. W. Boyd (*Southern Practitioner*, April, 1884) reports the case of an eleven-year-old boy who had gone hunting and was half a mile from the house when he fired his gun. The shot-gun exploded and was blown into several pieces, and drove the breech-pin into his skull. The boy came home soon after the report of the gun was heard, without assistance, bringing all the broken fragments of the gun with him except the lock of the gun, which he could not find, the breech-pin, however, still remaining buried in the skull; and on account of delay his father had taken a pair of shoe pinchers, and by using great force had succeeded in extracting the breech-pin. Upon examination it was found that the pin had entered the frontal bone one inch to the left of median line and just below the frontal eminence, making the point of entrance about half way beween the edge of his hair and superciliary ridge, and had penetrated both tables of the skull, and, measuring from the point of blood stains on the pin, it was $1\frac{7}{8}$ inches; as the screw had not penetrated the inner table of the skull it had only produced some slight depression of it. However, the part had penetrated and wounded the membranes and brain substance, length $\frac{7}{8}$ inches. The movements of the brain were plainly visible some distance from the bed-side. Some cerebral matter came away with the cloth which had been bound by his father over the wound, and more came away after its removal. Upon the introduction of the little finger, which easily entered the internal wound and table of the skull, there was discovered a wound in the inner table, but two small for the end of the finger to enter. The depression of the inner table was very slight, and the wound through it smooth, though the outer table was rough, admitting easily the little finger. The screw being at right angles to the breach-pin, as the cut showed, had made a considerable hole in the outer table, but any loose fragments of bone could not be discovered impacted in the diploe. The constitutional symptoms were very slight: pulse 96, breathing 24, temperature 97 degrees. As the brain membranes had been wounded, and the cerebral matter itself was still oozing out, the wound was gently closed with adhesive strips, leaving drainage room. Carbolized dressings were used, and potassium bromide given internally. Up to last accounts, February 25th, 1884, there had been a steady progress, from all appearances, to a complete recovery, the wound healing kindly by granulation, still discharging some matter. Several small pieces of bone have been discharged, seven or eight in all. The little fellow has been going about for ten days. He was permitted to sit up fifteen days after the injury, and the bromide was discontinued. The ultimate history of such cases is unfavorable; insanity or epilepsy insidiously develops and becomes demonstrable years after the original injury; and, as stated by Dr. W. B. Hazard (*St. Louis Clinical Record*, Dec., 1880), patients who have received fractures of the bones of the cranium occasionally recover and may pass many years of comfort, but they are extremely liable to epilepsy and frequently to insanity. In the museum of the College of Physicians, of Philadelphia, there is a skull the history of which illustrates this fact. It was presented by Dr. J. Cheston Morris, and came into his hands as a legacy from the patient, who died in an insane asylum at the age of sixty years. When seventeen years of age, the patient was thrown from a cart, his head striking the stones of the street and causing fracture of the parietal and a portion of the frontal bone. The man was taken to the Pennsylvania Hospital, where, under anti-phlogistic treatment, he made a good recovery. For fifteen years he was seemingly of sound mind, but at the expiration of this period epilepsy made its appearance, and the man required restraint, until death put an end to his sufferings. The autopsy snowed that the space left after the removal of the button of bone was closed by the enveloping membranes of the brain. The remains of an extensive fracture at the base of the skull were also distinctly visible.

Gunshot Wounds of the Heart.—Dr. S. B. Ward (*Medical Annals*, August, 1884) reports the case of a twenty-four-year-old man who placed the muzzle of a toy pistol, 22 calibre, over his left chest and fired one single shot. Very little hæmorrhage followed, just enough to cause a blood stain, about as large as a silver half dollar, on his shirt. The wound was at the upper edge of the cartilage of the fourth rib, midway between the nipple and the left edge of the sternum. When Dr. B. U. Steenberg saw him, five minutes later, he was dead. On autopsy rigor mortis was well marked. On opening the thorax with the knife the pericardium was accidentally wounded, and bloody serum spurted out in a stream to the height of six or eight inches. Further dissection showed that the pericardium had contained about one pint of clotted blood and about eight ounces of bloody serum. On examining the heart a laceration was found on its anterior surface, one inch in length, just to the right of the inter-ventricular septum and nearly parallel to it, the centre of it one inch and a half below the juncture of the auricle and the ventricle. Careful examination showed that a branch of the anterior coronary artery was divided, and was the source of the hæmorrhage. The laceration was about an eighth of an inch deep, did not involve the inner surface of the ventricle at any point, and the bullet was not lodged anywhere in the heart. Careful examination of the internal surface of the pericardium showed no wound at any point, but on its external surface an oblique wound was found immediately over the laceration of the heart wall, and the bullet lay enclosed between the two layers of the pericardium. A still more striking case is reported by Dr. H. W. Leonard of Camden, New York (same journal). The patient was struck in the left breast, one inch anterior to the left nipple, with two small rifle balls. They followed the rib to its junction with the sternum, then passed directly inward, cutting off the rib. The subject of the injury was so near the gun at its discharge that his clothing was burned by it. The balls entered the thorax at the junction of the fourth rib with the sternum. Both passed through the pericardium, wounding the heart, one of them making a valvular opening in the right auricle. They penetrated the right lung, one of them being found in the pleural cavity, the other in the muscles of the back. Particles of bone from the sternum were imbedded in the tissue of the heart. The pericardium was found filled with blood, as was also the right pleural cavity. One ball cut through the posterior surface of the sternum about half of its thickness, whence the spicula of bone that was found in the wound. Both balls entered the right lung, passing diagonally downwards, striking the eighth rib, one remaining in the pleura; the other passed out between the seventh and eighth ribs and lodged in the muscles of the back. The man after being shot walked fifteen feet before he fell, and in about an hour after he arose from the bed, walked into another room to quell a fight, and lived forty hours after the injury. Dr. Leonard saw him twelve hours after the injury, and found him with pulse irregular, beating 70, respiration 45, suffering from shock, of course. No hæmorrhage from lungs or wound; pain only in right side, which was severe. His age was 73.

RECOVERY FROM TRANSFIXION OF THE HEART.—Dr. Clouston ("Report of the Morningside Asylum for 1883") mentions the case of a lady patient who, being very suicidal, was being watched day and night by special attendants. Just as she went to bed one night, she suddenly became very ill. Dr. Spence was at once sent for, and came in a minute or two. He found that, with the long pin taken out of her cap, she had transfixed her heart through and through. She had felt for the point where its beat was most distinctly felt, and had done this so quietly that her attendants, though within two yards of her, looking at her, had not noticed the act. If a medical officer had not been at hand, she would certainly have died within a few minutes. As it was, she was none the worse after a few days. A similar case is reported by Bini (*Archivio Italiano per la Malattie Nervose*, 1880), and, judging from the chapter on heart wounds in Holmes' "Surgery," such cases are far from exceptional.

RECOVERY FROM AN ABDOMINAL GUNSHOT WOUND.—Dr. Busey (*Medical Bulletin*) reports the case of a man who was shot in the side during the late civil war. The wound was on the left side of the body, caused by a long conical carbine bullet, which struck the eleventh rib slightly to the rear of the lateral line, fracturing it, and driving many fragments into the surrounding tissues; then passing downward through the abdominal cavity, piercing the corpus cavernosum, transversely forward of the crural penis, severing and completely destroying in its passage the continuity of the urethra; thence downwards through the long diameter of the scrotum, it cleft the epididymis in twain, partially emasculating the right testicle; thence outward through the sac, onward and downward, piercing the integument covering the right thigh, through the layer of muscles, striking the femur at a point about two inches above its lower extremity, breaking the shaft into many pieces, and driving the spiculæ into and badly lacerating the surrounding tissues. One large fragment—a portion of the internal condyle—was driven violently wedge-wise into the cavity of the knee-joint, lacerating the synovial membrane, and rupturing the alar, ligamentous patellæ and crucial ligaments from their attachments. After creating such irreparable harm, the missile escaped through the integuments on the outer side of the thigh. The great hole bored into the side, the sharp-pointed fragments of fractured rib driven into vascular and sensitive tissues—the orifice giving exit to the missile indicating its track, either directly through or between the viscera (which?) the close proximity to the point of firing indicating the former—the severe wound of the penis and scrotal organism, the ghastly wound of the knee joint and fractured femur, the severe loss of blood, feeble respiration, almost pulseless condition, opisthotonos with nervous twitchings of the extremities, and insensible pupil, all indicated speedy dissolution. The man recovered.

ÆTIOLOGY OF TYPHOID FEVER.—Dr. Janeway (*Boston Medical and Surgical Journal*) concludes, concerning typhoid fever: That it is in all probability due to a bacillus. That this virus is certainly contained in the discharges from the bowels. That it gains entrance to the system through the air coming from places into which the discharges of other typhoid-fever patients have been deposited, or through water contaminated by a similar process, or through milk diluted with contaminated water, or perhaps visited by contaminated air. That there are instances which point to the probability that the germs which produce typhoid fever may develop in a suitable soil, but have not been derived from a pre-existing case of the disease. That it is not necessary to invoke the aid of the rise and fall of the ground water to explain the disease; though a low state of the ground water, by favoring an increase of the impurities in a well or water-supply, may favor the spread of the disease, as may also a sudden severe rain after a drought, by washing impurities, including the germ of the disease, into the drinking water. That the failure of the disease to spread when prompt and thorough disinfection of the excreta has been performed, as well as of clothing soiled by such discharges, makes it extremely doubtful whether the disease is communicated by the respiration, perspiration, etc.

Uronalysis.—Dr. Formad (*Louisville Medical News*) says: Sediment in the urine has no significance unless deposited within twenty-four hours. Albumen in the urine does not indicate kidney disease unless accompanied by tube-casts. The most fatal form of Bright's disease—contracted kidney—has little or no albumen. Every white crystal in urine, regardless of shape, is a phosphate, except the oxalate of lime, which has its own peculiar form, urine alkaline. Every yellow crystal is uric acid if the urine is acid, or a urate if the urine is alkaline. Mucous casts, pus, and epithelium signify disease of the bladder (cystitis) or of other parts of the urinary tract, as determined by the variety of epithelium. The urine from females can often be differentiated from the urine of the male, by finding in it the tesselated epithelium of the vagina. Hyaline casts (narrow), blood, and epithelial casts signify acute catarrhal nephritis. Much albumen, broad hyaline casts and epithelial dark, granular and oil casts signify chronic catarrhal nephritis. At first, much albumen; later, less. Hyaline and pale granular casts and little or no albumen signify interstitial nephritis. Broader casts are worse than narrow casts, as far as diagnosis is concerned, for the former signify a chronic disease. The urine should be fresh for microscopical examination, as the micrococci will change hyaline casts into granular casts or devour them entirely in a short time. Uric acid in the urine may, in Trommer's test for sugar, form a protoxide of copper, thus often deceiving the examiner in the belief that he has discovered sugar. Thus, when urine shows only a trace of sugar, other methods of examinations besides the Trommer's must be used—preferably the lead test. The microscope gives us better ideas of the exact condition of affairs in the examination of urine than the various tests.

Correspondence of the Insane.—Dr. W. W. Godding (*American Psychological Journal*) says: "The insane have also the right to be protected in their correspondence. 'Let the doors be shut upon him, that he may play the fool only in his own house.' If we take care that their unguarded words may not hereafter be repeated, to call up a blush or cause a pang to their convalescence, how much more ought they to be protected in regard to the permanent record which their written pages may leave! Yet the Belgian system of locked letter-boxes in asylum wards, from which letters can be posted the same as from any collection boxes, finds many advocates among our philanthropists, and it is considered, by some, the greatest outrage that the physician should examine the letters of his patients. He has an undoubted right to do this, in order that he may the better acquaint himself with the workings of a disordered mind; the same right that he has to inform himself of a disease of the liver or the kidneys, by examination of the secretions. The right to have unopened letters forwarded to a medical inspector, or commission higher than the hospital superintendent, is not here questioned, but to indiscriminately mail the correspondence of the insane, without previous examination by the medical officer, is not a right, but a wrong of the insane. He must inspect, and, if he be the true physician he should be, he will destroy some letters. How many secrets which come to the knowledge of the medical adviser, in general practice, are hidden in his breast from all human eyes, and will be buried with him! Is the only sickness which has no power to protect itself to be allowed no curtains to its privacy? As a physician to the insane, I ask that the Hippocratic oath may be inscribed on my tombstone: 'Whatever I see, or hear, in the life of men, which ought not to be spoken of, I will not divulge.' In the name of the pure women committed to my charge, whose physical derangement, by its reflex influence, has filled her disordered mind with unclean imagery, while her white soul is as untouched in its chastity as the lady in 'Comus,' when beset by the lascivious whisperings of demons, I protest against the mistaken philanthropy which, under the plea of protection, will put misery in all her after life, by disclosing to eyes other than her physician's the stained pages which a passing frenzy soils."

PNEUMOTHORAX.—Dr. S. West (*Lancet*) concludes that ninety per cent. of all cases of pneumothorax are attributable to phthisis. About five per cent. of all deaths from phthisis are the result of pneumothorax. Of the cases of pneumothorax, about seventy-five per cent. die within the first fourteen days, and about ninety per cent. before the end of the first month, though the duration of life of the remaining ten per cent. may be considerable. The period of greatest frequency coincides with the period of greatest mortality from phthisis, and lies between twenty-five and thirty-five. Pneumothorax is very rare before fifteen or after forty. It is commoner in men than in women, but the mortality is greater in women. One side of the chest is not more prone to be attacked than the other, nor does the side attacked modify the prognosis. Effusion commonly occurs, though not necessarily. It is not necessarily purulent ; in fact, serous, sero-purulent and purulent effusions are of about equal frequency, though in cases of long duration an effusion which was serous to begin with often becomes purulent. The chances of effusion being present, and of that effusion being copious and probably also purulent, increase with the duration of the case ; but effusion may be absent throughout, or be scanty in old cases and copious in recent cases, or, whether large or small, remain serous throughout or be purulent from the commencement. The perforation is found in about two-thirds of the cases, and may be discovered even in cases of long standing. It is usually single, but may be multiple. It is generally circular in shape. Its size is commonly small, two or three lines ; but occasionally it is large, even an inch or more in diameter. Its favorite position is in the upper lobe, where it occurs nearly twice as frequently as elsewhere, and in the mid-lateral region. There is, lastly, no relation between the amount of lung disease and the occurrence of pneumothorax.

SCARLATINA AND PUERPERAL SEPTICÆMIA.—Dr. F. P. Atkinson (*Practitioner*) thinks that the burden of proof rests on the physicians who seek to prove a relationship between scarlatina and puerperal fever, since : 1. Cases have over and over again been reported where the parturient woman has been the subject of scarlatina, and the peculiar symptoms of puerperal scepticæmia have been entirely absent, and also where there have been cases of scarlatina, not only in the same house, but in the same room, and even in the same bed with the parturient woman, without the occurrence of any ill effects. 2. He has been informed by a trustworthy medical man that he (the medical man) was once called away from a case of scarlatina he was watching to attend two cases of midwifery, and that neither of the lying-in women had any unfavorable symptoms afterwards. 3. He was also told that one medical man attended three cases of confinement when his hands were freely peeling from scarlatina, and that not one of these cases had anything the matter subsequent to their confinement. In spite of these facts, he believes that serious harm might result were pus from the ulcerating surface of the tonsils to come in contact with an abraded surface of the uterus or vagina. His treatment for puerperal scepticæmia is quinine, two or three grains, with five minims of the tincture of digitalis, alternating every two hours with from three to five grains of resorcin. Ice-bags to the head and spine, body sponging with vinegar and water, and uterine syringing with a solution of permanganate of potash three or four times daily. Plenty of good liquid nourishment and brandy. The instances cited are not a crucial test even had they been observed by Dr. Atkinson himself.

TRACHEOTOMY.—Dr. E. E. Montgomery (*Medical Bulletin*, July, 1884) concludes: 1. That tracheotomy is justifiable in diphtheria as well as croup. 2. That it should be performed in croup when it is evident that drugs do not control the progress of the disease, particularly when there is substernal depression during inspiration ; in diphtheria, with the advent of suffocative symptoms. 3. That in the performance of the operation the knife should only be used to incise the skin and trachea, the intervening tissue being torn by the grooved director and forceps. 4. That the subsequent administration of proper drugs will greatly promote a favorable result.

CAFFEINE AND CONVALLARIA.—Dr. Beverley Robinson (*Therapeutic Gazette*) says : In caffeine and convallaria we have two efficient heart tonics. 2. Diuretic action of caffeine is more marked than that of convallaria. 3. Convallaria is well borne by the stomach of most patients suffering with chronic cardiac disorders. 4. When not well supported, rejection of medicine by the stomach is probably due to the uræmic condition already commencing. 5. As cardiac tonics it is difficult, as yet, to assign a decided superiority to either of these drugs, they both giving increased cardiac power. 6. Cumulative effects do not occur from their continued use during a period of ten days or more. 7. Their power of restoring the rhythm to the cardiac pulsations, and increasing the bulk of urine, is not equal to that of the infusion of digitalis. 8. In this latter drug we have still the most efficient heart tonic and regulator which has been discovered. 9. Digitalis is a more powerful diuretic than caffeine.

FRACTURE OF THE PATELLA.—Dr. J. S. Wight ("Proceedings of Kings County Medical Society") gives the following description of a new splint for patella fracture : A quadrangular piece of pine board is fastened together at a right angle with pieces of wood glued in at the angle so as to make it firm and resistant. On one end are two bars put on with hinges on their sides. These bars are movable. On these two bars is sewn a piece of canvas or cotton cloth. These bars are movable and go up and down, for purposes to be described presently. There are two wheels, and pulleys with grooves. A hook is used for the purpose of hanging a loop of ordinary bandages which are attached to the bars. A roller bandage is fastened on the cross-bars. Then the bars are raised and so left, or lowered with perfect ease. Place it at that angle there and it makes a single inclined plane. Whether there is an injured limb or a fractured patella, it may be used with equal facility. The limb rests easily on it. If necessary a hole can be made for the heel, and if necessary pad it with a little oakum. A quadrangular piece of adhesive plaster of the best kind is cut in the form of a bootjack. The surgeon cuts little slits in this plaster, then sticks it on the limb. This notching of the plaster is an excellent idea in the use of all plasters. It makes the plaster stick with greater ease, facility and tension. Then this quadrangular piece of adhesive plaster is laid on the anterior surface of the thigh, on either side, and against the upper edge of the patella. When it is exactly against the upper surface of the end of the patella, a roller bandage is taken and rolled around the limb firmly against the upper portion of the fragment. By the application of the bandages in that way all that is possible of the quadriceps extensor of the leg or thigh is got hold of, not completely, but all that can be got of the skin all around, and that holds some of the fascia, and in that way the upper fragment can be pulled down. And this is what the pulley is for. Here is attached to the adhesive plaster small cords, to which are attached small sash weights, weighing about 3¼ lbs. If any one thinks there is no force here, let him carry one of these weights upright at arm's length for a length of time, and he will change his opinion. On the other side of the limb there is the same thing, so that there is here a force of 7½ lbs. upon this limb. There is only one thing more. The lower fragment will tilt up, but this may be prevented by putting upon it a sand-bag, and it will keep it down. If the sand-bag falls off, put it on again and keep it on. That presses the fragments together; and, more than that, the patient is always comfortable. If he slips up in bed these weights go up, and if he slips down these weights go down with him, and he is always comfortable in any position he can put himself in.

Delayed Chancroid.—Dr. F. C. Clark says (*Medical Bulletin*, July, 1884) that a twenty-two-year-old man came to him in November to be treated for gleet. He had had two attacks of gonorrhœa, the second one occurring very shortly after the disappearance of the first. The second exposure occurred in September or October. The gleet followed the second attack. He came at very irregular periods. He came again in December, reported that the discharge had left him, but now complained of swelling in the groins, and presented a well-defined chancroid of a week's standing in the meatus urinarius. He positively affirmed that he had not exposed himself since the last gonorrhœa, and, as Dr. Clark claims he can take his word completely, the appearance of the chancroid from the second gonorrhœa was a period not far from nine weeks. The customary remedies were used, and by January 10, 1884, the chancroid had long disappeared, but the swelling of the lymphatic glands in the groins had not entirely subsided, and the gleet had returned. But the discharge responded to a solution of tannic acid and port wine (ʒ j. tannin to ʒ viij. vin. port), used as an injection. The injection had run out, and hence his visit. The chief point of interest in the case is the remarkable interval between the last exposure and the appearance of chancroid lesion, viz., about three months. Hunter gives instances of that lesion as occurring from twenty-four hours to some weeks after inoculation, and in one case its non-appearance until some two months afterwards. Besides, Dr. Clark had good reasons for believing that there is no deception in this case; in fine, no pretext for deception. The case is rather impure and all elements of error are not excluded.

WHY DOCTORS AND LAWYERS DISAGREE.—Dr. H. Howard (*American Journal of Neurology and Psychiatry*, March, 1884) says lawyers should be as careful in selecting experts to give evidence as they would be in selecting a physician for their own families. All laws were based upon the dogmatic or *a priori* speculative philosophy, and the judge, to be logical must rule upon this philosophy; but the reasoning of the expert physical scientist is based upon experimental philosophy, and hence there necessarily follows antagonism between the members of the two professions; and this antagonism will always exist, and consequently there will always be injustice until we recognize experimental philosophy as the true basis upon which to found all jurisprudence, and neither profession will ever advance to its proper standing till the education is founded or based upon experimental philosophy. If the penal code was based upon physical science we would cease to hear so much of free will, because we would then look upon every man to be a representation of what his physical organization made him, and treat him accordingly. He would be tried by nature's laws for any offence of which he would be guilty against social order, and, if found guilty, he would be simply separated from society as an abnormal man, to be restored to his place in society when, if ever, he should become a normal man, and, if not, never to be restored. Another great cause of difficulty between lawyers and doctors was trying to make the criminal gauge coincide with the teachings of theology, trying man who is of the natural order by a supernatural law. How can man, who is of the natural order, be judged by his fellowman, who is of the same order, by a supernatural law? It is right and reasonable that God should judge us by his law, for he cannot err, but that man should judge his fellowman by a supernatural law was, in his opinion, an absurdity of the highest order. If society governed itself in accordance with nature's laws, there would be some justice in the world, and consequently more happiness. How does it stand with the legal jurist and the medico-legal jurist? The legal jurist, under our existing penal code, must maintain the theory of free-will as laid down by the dogmatic or *a priori* philosophers of past ages, while very many medico-legal jurists, guided by the light of physical science, must hold that free-will as understood by the former is actually a misnomer; that will, like mind, is a phenomenon or force of matter subject to physical laws.

NOTE.—It is such nonsense from such men which subjects the so-called science of psychiatry to just ridicule.—E. S. G.

TREATMENT OF ECZEMA MARGINATUM AND TRICOPHYTOSIS.—Dr. R. W. Taylor states (*Journal of Cutaneous and Venereal Diseases*, Feb., 1884) that he first tried a four-grain-to-the-ounce alcoholic solution of mercury bichloride, and, when dry, painted the whole surface with a tincture of myrrh. He then used four grains mercury bichloride to an ounce of tincture of myrrh, and had thoroughly painted the seats twice a day. In a few days the patches and rings became less red, the papules less salient, the pruritus was relieved, and within a fortnight the disease was wholly cured. He afterwards used the simple and compound tinctures of benzoin as a vehicle for the bichloride, "affording a vehicle for the parasiticide and a protective film to the integument." The dis comfort is very slight, patients simply complaining of a little drawing or tight sensations of the parts for a few moments after the application—inconveniences more than counterbalanced by relief of pruritus.

ORIGINAL TRANSLATIONS.

Multiple Abscesses from Unknown Cause. Death Rapid, with Typhoid Symptoms. By M. Broca. Translated from the *Progrès Médical* of February 16, 1884, by H. McS. Gamble, M.D., Moorefield, W. Va.

Marie Lebeden, 29 years of age, dressmaker, was admitted July 10, 1883, to the Hôtel-Dieu, Ward Saint Ann, No. 24. Service of M. Empis.

Ten years ago she had general febrile acute articular rheumatism. No abscess at that time. Since then the ring finger of the right hand has remained flexed at almost a right angle at the first joint. There are no signs of heart trouble. Three years ago she had a natural and easy labor. The woman is vigorous, and generally enjoys good health.

The present disease made its appearance the 4th of July. Three weeks ago the patient was subjected to a very painful labor in nursing a person suffering from an attack of typhoid fever and erysipelas. Eight or ten days ago she felt ill at ease, when, on the 4th of July, during the day, she was taken with chills and nausea, with bilious vomiting. This lasted until the next day at noon. At the same time the menses made their appearance at their regular period. Normal for two days, they then degenerated into a hæmorrhage on the night of the sixth. The sanguineous flow, under the form of a slight oozing, persisted for two days after the admission of the patient. There was no history of antecedent uterine trouble; no leucorrhœa, no abdominal pains.

The patient was attended at home from the 5th of July: Sulph. quinine, one gramme; frictions of baume tranquille upon the right leg, which had already become painful.

The following days, pains in the right shoulder at first, then in the whole left lower limb.

July 8th.—Vesication upon the precordial region.

July 9th.—Purgation.

July 10th.—She was admitted to the hospital. Patient pale, enfeebled. High fever. Temperature 40.8° in the evening. Insomnia. The chills have not returned since the first twenty-four hours. Sweating abundant since the beginning of the disease. No cough, no pains in the chest; auscultation of the lungs reveals nothing ; in the heart there is a murmur with the first sound, and at the apex ; no palpitation, no oppression. No albuminuria. Liver normal. The right shoulder is painful spontaneously and upon pressure ; puffy, distended, hot, without change in the color of the skin. Upon the back of the right hand there is a little redness and swelling, without much pain at the metacarpo-phalangean articulation of the index. The left wrist is painful upon the least movement, and upon any exercise of the muscles. There is a little liquid in the left knee, which, however, is neither swollen nor painful. Pressure is painful in the left inguino-crural region. There is nothing the matter with the left upper and right lower limbs. Abdomen pliant and indolent.

July 12.—The prostration has increased. Fever continues high. Temperature 39.5° to 40.5°. The pains have become pretty severe in the right hand ; the redness and swelling have increased ; fluctuation (frictions with laudanum and envelopment with cotton). Pain upon pressure in the right groin.

July 14.—Same condition. The fever continues about the same without any great variations. Temperature 39° to 39.5° in the morning ; from 40° to 40.5° in the evening, without rigors. The swelling of the right hand is considerable ; suppuration is evident.

July 15.—Same condition of the right hand. At the level of the left elbow there is œdema with bagginess, redness and pain, extending especially upon the forearm. Upon the right lateral portion of the neck there are several very painful tracks of lymphangitis, with little red and puffy cords. Upon the internal aspect of the right knee there is a small red spot, a little salient, indurated, indolent, regularly circular, about one centimetre wide, with a perfectly distinct contour.

July 16.—Longitudinal incision over the purulent centre of the right hand. Issue of a notable quantity of very bloody, inodorous pus. The finger introduced into the abscess clearly distinguishes the extensor tendon and the articulation, which is evidently intact. A little œdema and pain in the right elbow.

July 17.—The pain in the hand has been considerably relieved by the incision. The pains elsewhere are less severe to-day. A little redness with superficial streaks along the antero-internal region of the upper part of the right arm. The redness is less marked in the region of the neck ; same grave general condition ; agitation, fever ; percussion and auscultation of the thorax reveal nothing unusual. The liver continues normal. The spleen cannot be percussed on account of the difficulty experienced in placing the patient upon the side.

July 18.—A little quiet delirium yesterday evening which has continued through the night. This morning, temperature 39.5° ; slight epistaxis. The redness of the neck is diminishing ; small, hard nuclei are felt along the course of the tracks of lymphangitis. Pain upon pressure is very decided in the anterior portion of the upper third of the left forearm. Cough quite frequent ; respiration a little oppressed. The patient suffers but little spontaneously. A few sub-crepitant very fine râles are heard, towards the right side and back, in the direction of the axilla. Evening temperature 39.8°.

July 19.—Morning temperature 39.8° ; evening, 41.4°. The patient is beginning to-day to give way. Sub-delirium in the evening; same general and local condition; a trace of albumen in the urine.

July 20.—Morning temperature 40.8°, pulse 120. Insensibility. Pressure upon the swollen parts provokes no manifestation of pain. Oppression; cough with viscid, difficult expectoration. Delirium continued; quiet, lasting until three o'clock in the afternoon. At this moment it ceases; there is an attack of vomiting. The agony lasts about two hours, without agitation, without convulsions. The patient, at the moment of death, did not assume an icteric hue, she rather became purplish.

Autopsy performed the 22d of July at 9.30 A.M.—Decomposition moderately advanced. Dark, ecchymotic plaques in right lateral portion of the neck, of the internal aspect of the right arm, of the external and posterior region of the left elbow and forearm. The heart is sound; it presents no valvular lesion. Fluid of the pericardium somewhat abundant. Both lungs present a large number of little indurated superficial points, of which very many have suppurated. No pleurisy; no pneumonia. Liver a little yellow; pale. No abscess. Spleen large; diffluent; no abscess. No changes in the brain or kidneys.

Not a trace of peritonitis. Fallopian tubes a little congested. A few small serous cysts in the broad ligaments. Uterus: Cavity quite spacious; mucous membrane a little congested, and a little muco-pus at the base; not a trace of phlebitis or of lymphangitis. Iliac fossa: Nothing abnormal in the sub-peritoneal tissue. Iliac fascia sound on both sides. On the right side the psoas muscle entire is transformed into pus; the purulent collection is extended, by the sheath of the psoas, to the level of the small trochanter. Deep purulent focus in front of the trochanter major, under the anterior straight muscle. Nothing in the iliac fossa. Nothing abnormal in the lower limbs.

Upper limbs: On the right, considerable suppuration of the sub-deltoid bursa; abscess with soft, swollen, irregular walls. The cavity on the hand, incised during life, is absolutely empty. There is quite an extensive loosening up of the skin on the dorsal aspect of the hand.

On the left, incision upon the external border of the forearm. The subcutaneous tissue is œdematous, but not suppurating. Under the aponeurosis we come upon a collection situated under the anterior cubital muscle, and in its substance, extending between the deep muscles, ascending along the external aspect of the arm from three to four centimetres above the elbow, descending as far as the lower part of the forearm, in front and behind, especially in front, and a little even to the dorsal surface of the wrist.

All the large articulations have been opened; not one contained any pus. Nowhere has any denuded bone been found. The veins, examined carefully in the region of all the suppurated parts, have not presented a trace of phlebitis. The pus in all the abscesses was quite fluid, a little yellowish, sufficiently thick, and without any odor.

Reflections: What diagnosis ought to have been made, first, during the life of the patient, and then after the autopsy? At the beginning, the error was made with acute, articular rheumatism, and it would have been difficult to avoid it. The existence of an anterior attack, the pains in the region of the articulations, the souffle at the heart, and the abundant sweats pleaded in favor of this hypothesis. The general condition, however, indicated at once that the attack would be grave. It demonstrated soon that we were in the presence of an infectious disease, tending to produce multiple suppurations in the limbs, and, during life, the diagnosis was uncertain and doubtful, especially between an ulcerous endocarditis and a purulent infection following abortion. Acute farcy was hardly to be thought of. Abortion seems to me difficult to admit. The sole phenomenon directing the attention to it is that the *début* of the disease coincided with an abnormally abundant menstrual flow. But this menstrual flow came at the usual epoch.

The lesions observed at the autopsy can hardly be interpreted upon the theory of an abortion. The peritonæum was absolutely sound; the uterus had a mucous membrane only a little tomentose, but not more than during normal menstruation, and one cannot base an opinion, we believe, upon the drop of muco-pus found at the bottom of the cavity. The lymphatics and the veins were perfectly normal. A more important necroscopic fact is the existence, on the right side, of a suppurated psoitis; this accords well with the idea of a puerperal septicæmia. But let any one refer to the clinical observations and he will see that the pain in the right shoulder has preceded that in the left groin, and that the latter in its turn manifested itself before that in the right groin, and that upon the left side there was not a trace of psoitis. The iliac phlegmon is not then the point of departure; it is only a suppuration connected with the same general cause which has engendered all the others.

The autopsy has incontestably destroyed the hypothesis of an ulcerous endocarditis. It has led us then to conclude that we had observed one of those infectious diseases the cause of which escapes us, and which are characterized by multiple diffused suppurations, accompanied by grave general phenomena. This affection has not yet been the object, to our knowledge, of any general description. Our object is not, however, to undertake this description, but only to show that if the scattered cases have been but seldom collected, it is because in the collections they bear different titles and because they are classed under heads apparently dissimilar.

The most recent and the most complete work upon this subject is the thesis of Bourey. After having passed in review the arthrites which supervene in the different infectious diseases, and of which he denies the rheumatismal nature, our colleague studies in the second part of his thesis those multiple suppurating arthrites often before considered as acute suppurative rheumatism. Defending the views of his master, Professor Bouchard, he maintains that this affection has nothing about it of a rheumatic nature, that it is a general infectious disease, and he compares these articular suppurations to those observed in well-marked infectious diseases, as, for example, in dysentery, scarlatina, etc. These views are very analogous to those which Quinquand had enunciated already in regard to what he called "arthrito suppurative disease." Bourey adopts the name of "infectious pseudo-rheumatism."

Among the cases anteriorly considered as acute suppurative articular rheumatism, and passed by in silence by Bourey, we will take up an observation of

Cruveilhier, reported during the service of Dupuytren and reproduced by Vallerand de la Fosse in his thesis. The same author, in his atlas of pathological anatomy, relates three other similar cases. Two of them may be found in a memoir of Malle; in 1840, *apropos* of the case of Parise, cited by Bourey, and of which Barth had already called in question the rheumatic nature, Mascarel reported an analogous history; in 1850, Gendrin maintained that rheumatism does not suppurate, and Rissoll, on the contrary, published a case that he attributes to rheumatism. Valliex thinks that these cases ought to belong to the purulent diathesis. To finish this enumeration, we will mention the cases of Becquerel, of Leflaive, of Gubler; the three cases attributed by Lebert to cerebral rheumatism; and a case of Martineau described by J. Guyot. We find in the thesis of Gloesel a somewhat more complex case, but still attributed to rheumatism. Likewise, Schreiber considers that the multiple articular suppurations are associated with abnormal rheumatism. If, then, the possibility of suppuration in acute rheumatism has always been contested, the majority of authors formerly admitted it, as the articles of Villeneuve and of Ferrus in the dictionaries in sixty and in thirty volumes show. One referred even, without hesitation, to rheumatism, some doubtful cases, such as that of Fauchier. But we have seen that some physicians, as Valleix and Gendrin, thought already that these cases ought rather to be referred to what Tessier had called the spontaneous purulent diathesis. Apart from the question of name and doctrine, it is, in substance, the opinion of Bouchard and of Bourey: suppurative articular rheumatism is not rheumatism. But Bourey has occupied himself only with articular disorders.

M. Hagem has done the same way with suppurative muscular rheumatism. He has described these cases under the name of *infectious myositis*. But here we have not met with multiple suppurations analogous to those we have reported before. In the description given by Foucault, the disorders are confined to one arm; among the older cases, the descriptions of Villermé and of Ozanam are not precise, and the commentator in the journal of Corvisart finds them inconclusive; we may say as much of the history given by Pinel, but these facts are interesting in that they bring before us cases of diffused suppurations arising without any known cause, and accompanied by general phenomena of an infectious nature. Moreover, as we are going to see, Tessier and his pupils cite as examples of the purulent diathesis certain cases of isolated suppuration.

A Duplay and Rennes have reported, under the title of *multiple abscesses*, some observations which we believe to be very analogous to our own, although, since then, some authors have attributed them to farcy. The farcy is not more clearly demonstrated in a case of Gubler's. These cases are rather to be compared to the *sudden abscesses* described by Delpuh.

J. P. Tessier, in a celebrated memoir, has collected the different cases characterized by multiple suppurations, has compared them to purulent surgical infection, and referred the whole to a general condition which he has called the purulent diathesis. Going still further, he has introduced into his descriptions some observations in which a diffused phlegmon, supervening without known cause, was rapidly followed by death. He is the first one who has sought to make this synthesis. But it must be said that in his memoir one finds but few conclusive observations having reference to multiple suppurations without appreciable cause. His opinion was, however, accepted by some authors, among whom we will mention Voillemier, Cazeau, Jousset. The histories of some cases will be found in the thesis of some of the pupils of Tessier: Dufresne, J. L. Mathieu, in a memoir of Milcent, and in the thesis of Frestier. This designation has even been adopted by Bath, by Broca, and by Hervieux, who reports nine cases of multiple purulent collections in the new-born. More recently Martineau has also employed it.

It is likewise the same affection which has sometimes been described under the name of spontaneous purulent affection, or spontaneous pyohæmia. It is, in fact, altogether comparable anatomically to certain forms of purulent traumatic infection. But a goodly number of authors refuse to accept spontaneous pyohæmia. For example, M. Alph. Guérin, who in his thesis admitted "spontaneous purulent fever," combats this opinion in his academic discourses, in a still more recent article in the *Nouveau Dict. de Méd. et de Chir. Prat.*, and refers to glanders or to farcy the cases formerly taken by him for spontaneous purulent infection.

It is true that M. Verneuil believes in the possibility of pyohæmia without exposed wounds, and he caused to be sustained by one of his pupils, Domec, a thesis to demonstrate it. Domec rests only upon those cases in which there is an appreciable cause. But, if in a whole category of cases which he cites, and which have been known and admitted for a long time, the point of departure is in an internal suppuration, elsewhere there is no causal suppuration. Thus, we have seen pyohæmia produced by a non-suppurating sub-cutaneous fracture, and if sometimes there is a phlebitis in the region of the centre of injury, this is not constant. On the other hand, Domec gives the history of a case in which he admits that the pyohæmia is consecutive to a phlegmon of the shoulder. But, in view of the succession of the symptoms, one might as well admit that the phlegmon of the shoulder arises from the same cause as the other suppuration. As much might be said for a description given by Schutzemberger. Also for a case of Lemaire.

Wunderlich has published an important memoir upon "primitive and spontaneous pyohæmia." He says, with reason, that if the name is contestable, it is only a question of words; in spite of the etymological sense, the name of pyohæmia is not reserved for the cases in which there is a mixture of pus in the blood. Among his descriptions two are very clear, the other five are less so. Moreover, Velpeau himself had reached the point of using the name of spontaneous purulent infection, as is shown by the history of a case published by his internes Léonville and Leroy.

It is the name adopted by Servier, Surmay, M. Raynaud and Cluston.

It results from all that precedes that certain infectious diseases are characterized by multiple suppurations, liable to become located in the articulations, in the muscles and in the cellular tissue. And is not this comparable to acute osteomyelitis, which is also remarkable in certain cases by the cortège of its general phenomena, by its infectious aspect, and by the multiplicity of the bones affected? In the memoirs of the pupils of Tessier above cited are also found a certain number of descriptions in which are found evident osseous lesions. Tavignot, for example, has brought out as a sample of the purulent diathesis a case of acute multiple osteomyelitis.

Is it not equally comparable to the multiple abscesses which are seen arising in the course of well-determined infectious diseases, as erysipelas, small-pox, typhoid fever?

We believe, then, that we may generalize more than Bourey has done: the articular suppurations are only one particular instance.

Purulent infection and pyohæmia are names which have the advantage of recalling the analogy of the lesions observed in these cases, and in those in which, whatever may be the accepted theory, the disease has an exposed wound as its point of departure. There is, however, a difference; in the cases which engage our attention at present, the visceral suppurations are the exception, the articular or peri-articular suppurations are the rule. It is the reverse in surgical purulent infection. We will not attempt to find an explanation for this; these two forms have already been noticed in the pyohæmia of the wounded by Vidal, and by Malgaigue, who ask whether the cases in which there are diffused suppurations of the cellular tissue do not correspond rather to the lesions of the lymphatic system. In every case, according to our observation, the lymphangitis of the neck demonstrates that the lymphatic system was diseased.

But, as we have said, a number of surgeons refuse to admit a *spontaneous* pyohæmia. All that depends upon the dimensions that one is willing to attribute to the door of entrance. What individual does not have a more or less slight abrasion upon some portion of the cutaneous or mucous surface? With the parasitic doctrines that prevail at present, the extent of the solution of continuity matters little. It is only necessary that the inferior organisms, incriminated to-day in infectious diseases, find a propitious ground in order to develope themselves. Whence the influence of the general state of health: overwork, alcoholism, cold.

Wood, for example, reports some cases of pyohæmia supervening in alcoholic subjects under the simple influence of cold.

The insignificance of a wound, the absence of inflammation about it, do not preserve the patient from the possibility of a purulent infection. The different accounts of cases in which a nearly cicatrized whitlow has caused death through this influence are convincing upon this point.

One may compare the cases in which midwives have been known to be attacked with puerperal infection from having remained during a menstrual period in a ward in which an epidemic was prevailing. It is precisely upon facts of this kind that Voillemier rests to defend the doctrine of Tessier. M. Rendu likewise notices them.

To sum up, might not we compare, except as to frequency, the pyohæmia called spontaneous to spontaneous erysipelas? From the fact that, for many authors, erysipelas, called spontaneous always, has as its point of departure a solution of continuity, must it be concluded that we ought not to differentiate this medical erysipelas from surgical erysipelas? Now, ought we to suppose that this medical pyohæmia always evolves, as it has evolved in the case which we have reported? This does not seem probable. In the thesis of Bourey, for example, we find accounts of cases in which the cure took place in spite of the grave symptoms, without appreciable suppuration in cases 12 and 13, and with well-localized suppurations in the first case of Mathieu (Case 8, in Th. of Bourey).

In these histories even the disease has assumed an acute form. May not the multiple abscesses described by Laurent in his thesis be regarded as a chronic and benign form of an affection entirely analogous to that of which we have just indicated the grave form in a few words?

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ORIGINAL ABSTRACTS.

Lactation.—Dr. J. Dolan (*British Medical Journal*) concludes: 1. All therapeutical agents intended to act on the mammary gland must first enter the blood, or be capable of stimulating the blood supply in the mammary apparatus. This principle follows from what we know of the processes involved in the making of milk, and depends on the general principle that nutrition is dependent on blood supply. 2. All the drugs derived from the families liliaceæ, cruciferæ, solanaceæ, umbelliferæ, etc., enter the blood and impregnate the milk, so that poisons in any of these classes should be administered with caution to the mother or nurse, lest the nursling be injured. 3. There is no true galactagogue in the sense in which it is understood. The nearest approach to this is to be found in jaborandi; but this drug is not persistent in its action, as it only temporarily affects the mammary secretion. 4. There is an antigalactagogue, belladonna. 5. In inaction of the mammæ, milk may be increased and influenced by medicines. 6. The salts of milk may be improved by the administration of medicines. 7. Various physiological actions—purgative, alterative, diuretic—may be produced in the child by the administration of drugs to the mother. 8. If we are to expect any improvement in milk-secreting power, both as to quantity and quality, we must look to diet and hygiene for the attainment of that object. He says concerning lactation that: 1. It may be defective from mechanical causes—(*a*) through non-development of the lactiferous tubes; (*b*) through non-development of the cæcal terminations of the ducts; (*c*) through non-perfection of epithelium. These are conditions which preclude treatment. It may also be defective from a plethoric state of the body. This is a condition strictly amenable to treatment. A carefully-regulated diet, avoidance of stimulants, with milk as a leading article, plain but nutritious food, and the occasional administration of castor oil, will soon remove the obstruction. 2. There is another condition, viz., torpor of the mammæ, when treatment will be beneficial. The inactivity of the secretory apparatus may be overcome by the application of the electric current several times daily, in succession, for fifteen to twenty minutes at a time, or by irritation of the nipple, warm poultices, and the breast pump. 3. The commonest cause of defective lactation is anæmia. This anæmic condition is intimately associated with general degeneracy, so that the subject of defective lactation is only part of a more general question.

Apomorphia as an Emetic.—Dr. John Brown (*British Medical Journal*) says he has had patients obnoxious to ordinary emetics. The emetic has caused nausea and depression, but no emesis. One was a man who had been drinking, and eating indigestible food. Domestic emetics had been given, which had produced nausea and ineffectual attempts at vomiting. It occurred to him that apomorphia, used hypodermically, might succeed. He prepared a solution containing a grain of apomorphia chloride, twenty minims of rectified spirit and water to two drachms, of which he administered ten minims hypodermically, which equals one-twelfth of a grain. In seven minutes it produced free and copious vomiting. There was no nausea, nor depression, nor intolerance of food. The other case was a man who was a total abstainer. Patient had loaded his stomach with a mass of indigestible food, which had caused acute pain in his stomach. He had tried domestic remedies without success. Pain was so severe that Dr. Brown was called up at night. The other case having been so successful, he at once administered ten minims of the solution. In two minutes, without any previous nausea or warning, the contents of the stomach were violently ejected on the floor, the patient not having time to get a vessel to vomit in. This was repeated two or three times at short intervals, and the patient had speedy relief. In this case there was no nausea nor bad after-effect. He is convinced that the value of apomorphia, as a safe, certain and quick emetic, is not appreciated because not known. In cases of alcoholic and narcotic poisoning it is a most valuable remedy, and the emesis is delayed a few minutes only. In acute gastralgia and convulsions in children, due to overloaded stomachs, apomorphia will prove a speedy cure. He has given one-sixth of a grain of the drug to children by the mouth without producing any effect whatever.

Artificial Propagation of Vaccine Virus.—Dr. Buist, of Helsingfors (*Medical Record*), announces that, by cultivation, the bacilli arising from micrococci of vaccine virus will, in turn, produce crops of micrococci. His formula is as follows: ℞. Blood serum, 1 part; glycerin, 1 part; aqua distillat, 1 part; calcii carbonate, 1-900 part. This fluid is sterilized by keeping it at a temperature of 60° C.; it is then spread on a glass plate, a drop of vaccine lymph is mixed with it, and the whole covered with a glass bell. It is kept for ten days, when the surface is covered with vaccine organisms, according to the doctor. A little of this is capable of producing the true vaccine vesicle by inoculation. This inoculation is proof against a second, but whether immunity from variola is thus received is not stated.

Abortion at Two Months; Quadruplets at Full Time.—Drs. Edwards and McTaggart state that (*Canada Medical Record*, July 21) they were called to Mrs. S., small of stature, aged 38, weight one hundred pounds. She thought herself but five months *enciente*, but from her history and condition it was evident that she was seven months pregnant. She last menstruated on December 4, 1882. About seven weeks from this time she commenced to flow, which lasted for some three weeks, accompanied by pain. With a pain resembling a labor pain something was expelled, which she described as a lump of flesh with bloodvessels in it. To this "lump" was attached a short string. At this she became alarmed and consulted a medical man, who assured her that she had had a miscarriage. He prescribed some medicine which he said would check the flow and cause the expulsion of anything that might remain. From her account the flow increased for a few days, then finally stopped. From this time until September 14th, 1883, she has been, comparatively speaking, quite well, although distressed by the immense size and weight of the abdomen. On the evening of September 14th she was delivered of four living children, two boys and two girls; the time between the birth of the first and that of the last child being one hour and forty-five minutes. The weight of the males exceeded that of the females by a few ounces. The weight of males was four pounds nine and one-quarter ounces, and four pounds three ounces; females, four pounds six ounces, and three pounds thirteen and three-fourths ounces. Labor terminated favorably, there being no hæmorrhage to speak of. There was but one placenta, each cord being inserted at different parts of its surface. The quartette at last accounts were healthy, able to nurse, and bid fair to live. The mother did exceedingly well, having suffered no more exhaustion than if she had had but one child.

Extra-Uterine Pregnancy and Peritonitis Taken for Poisoning.—Dr. George S. Hull, Chambersburg, Penn. (*Medical News*, June 23), reports the following case: He held an inquest on a colored woman who had died suddenly. Vomiting, followed by death, together with a history of family troubles, led her friends to suspect her husband of poisoning her. About three A.M. pains had set in the left inguinal region, accompanied by severe vomiting. It was not learned whether the pain preceded the vomiting or *vice versa.* A physician was sent for; did not go, but sent three quarter-grain morphia powders. She took one every hour, seemed easier, and the vomiting ceased. At noon, becoming very weak, the doctor was again sent for, responded in person, and found the patient pulseless at the radials; he ascertained that she had been constipated for about a week, and made a diagnosis of obstruction of the bowels; he gave five compound cathartic pills, and ordered an enema. In an hour the patient was dead. On autopsy: Peritonæum inflamed (recent—no pus), stomach empty save the pills, which were liquefied. Intestines normal. About two quarts of clotted blood were found in the abdominal cavity. The womb was ruptured, a small circular rent in the fundus about the left cornu. The uterus was removed and the rent enlarged; a fœtus of about three months with membranes entire was found. The placenta seemed attached at the point of rupture. The pregnancy seemed to be interstitial, the tube being involved. The lower half or two-thirds of the uterus was much hypertrophied, and contained two or three teaspoonfuls of muco-pus, which could be pressed out at the os uteri. There was no communication between the pus-cavity and the cavity containing the fœtus. The uterus was not adherent to the other organs, but inclined to the right side, the fœtal sac occupying very nearly the normal position of the fundus, and the point of rupture a little to the left of the line of the umbilicus. The rupture was spontaneous, causing the vomiting and pain of the night; however, the woman had eaten of sauer-kraut for supper, and it might have caused the vomiting, and that in turn the rupture. The morphia allayed the symptoms for a time, but the hæmorrhage was slowly going on, and peritonitis setting in; the former predominating, death took place from loss of blood. She was the mother of one child, and was to all appearances in good health up to the time of the accident.

Feigned Insanity.—Dr. A. Robertson (*Journal of Mental Science*, April) says about a recent case: “I am of opinion that this prisoner is feigning insanity. The apparent indications of mental disorder shown by him are not consistent with real insanity. Thus at one time of each of the last two interviews he declared he had committed murder, and was lying under that charge, and there was no hope for him, and that he was eternally lost; while at another time he said that he had £400 in gold, that he expected to inherit from £4,000 to £5,000, and intended going to Callao, in Peru, where he resided some years; there he would purchase an estate, keep a riding-horse, and had no doubt he would get into the best society. At the last interview he asserted that the island of St. Helena belonged to him. These two kinds of apparent insanity are of totally different nature, and not met with in real unsoundness of mind in the same person at the same time. The one implies exaltation, the other depression: states of mind that do not exist together." Dr. Kiernan, commenting on this, says (*Journal of Nervous and Mental Disease*, April): "Now it has been the experience of myself and others that when paretic dementia is engrafted on other psychoses, the latter leading to delusions of a persecutory type, the very phenomenon which Dr. Robertson declares to be inconsistent with real unsoundness of mind is presented, and the patient will give prominence to his persecutory or exalted delusions, as upon one or the other stress is laid by the examining physician. The paretic dement whose psychosis is complicated by phthisis will show, coincident with suspicional delusions produced by phthisis, the exalted delusions of the first psychosis. It is therefore obvious that from this standpoint Dr. Robertson's reasons for considering the man to be feigning are decidedly not valid.

TETANUS FROM VACCINATION WITH BOVINE LYMPH.—A boy nine years of age was vaccinated by Dr. Theo. Dimon, Auburn, N. Y. (*Courier of Medicine*), on January 6, with a quill charged with bovine virus. On the 27th the arm exhibited a large irregularly-shaped ulcer, one-half covered with dark incrustation; the remainder, with excavated edges, showed large dingy granulations, with here and there bits of thick pus adherent to them. The arm was swollen, and there were ascending patches of erythema on each side. The axillary glands were large and tender. The worst feature of the case, however, was a stiffness of the jaws, which prevented his opening his mouth. During the day he had occasional slight chills, pains radiating from the pit of the stomach to the whole trunk, accompanied by attacks of tonic spasm. When seen at this date, opisthotonos had existed for some hours; slight irritation of the body brought on general convulsions. Pulse, 90; temperature, 98.5°; body covered with perspiration; mind clear. There was positively nothing to attribute the tetanus to except the vaccination. On the tenth day after he died from exhaustion. A similar accident with like result in an infant three months old was reported by Dr. James Collins (*Philadelphia Medical Times*) to the Philadelphia County Medical Society, May 25, 1881. In this case bovine virus also was used. The crust fell off on the twenty-first day, leaving the child apparently well. Shortly afterwards it was seized with opisthotonos, and died in a few hours. In contrast are the results of the National Board of Health Immigrant Inspectors, who vaccinated thousands without bad result.

GINGIVITIS OF PREGNANCY.—Dr. Didsburg says (*Révue Medico-Chirugicale des Maladies des Femmes*) that this begins with a swelling and softening of the gums about the second month of pregnancy. There are three grades of the affection; in the third stage the inflammation gives a violet red color to the gums, which are puffed out, and the interdentary spaces stand out in relief. The tartar and epithelial *débris* collects about the teeth, and the inflammation may extend to the alveolar periosteum, when the teeth become denuded, and finally come out, although perfectly healthy. This gingivitis occurs especially on the anterior portion of the maxillaries; rarely beyond the canines, and the convex surface of the maxillaries is the only part affected. The other symptoms are pain and local hæmorrhages. The ætiology of this affection is as yet unknown. The tartar must be removed, and the indication met by astringents, potash chlorate, etc., and in severe cases by the tincture of iodine, chromic acid, and a mixture of chloral hydrate and astringents.

SCARLATINA IN UTERO.—Dr. Charles A. Seale reports (*Medical News*, May 31, 1884) the case of a child born with scarlet fever. The mother was attacked with the disease at the end of the ninth month of pregnancy. Labor was induced when she was in the early part of the eruptive stage of the fever. The child, delivered with the forceps, was unmistakably in the midst of the eruptive period simultaneously with its mother. The child recovered, but the mother died fifty-six hours after delivery.

PRIMARY CONFUSIONAL INSANITY.—Dr. S. V. Clevenger (*Chicago Medical Journal and Examiner*, June, 1884) reports the case of a man aged twenty-five, admitted December 20, 1883, who presented the symptoms of primary confusional insanity rather than those of acute alcoholic insanity, although the cause was a protracted debauch. He was restless, incoherent and talked of betting on the white horse. He would repeat questions asked him. He talked of headache occasionally. He rambled something as follows: "White horse; there he is; didn't get there; get up; hello; yesterday; bet your life; where did he go? he has a bad eye; look out; let's take a drink." January 7, 1884, he recovered his mind suddenly. The last he remembered was being in the Union Depot, and when he became sane thought he was still there, and began to wonder at people sitting around with hats off and some without coats. The time during which he was insane is completely blotted from his memory.

SUPERFŒTATION.—At a meeting of the Toronto Medical Society (*Canadian Practitioner*) Dr. Davidson reported a case of probable superfœtation; the woman miscarried, one fœtus being four months and the other five or six weeks. The first was delivered breech presenting; the placenta was removed twenty minutes afterward. On examination a small bag was found, which, with clots, was removed from the uterine cavity by the finger. The bag contained the second fœtus. Dr. Cameron thought there was no doubt as to its being a case of arrested development of twins. Dr. Davidson said in that case there would be more maceration of the blighted ovum.

CEREBRAL HÆMORRHAGE DURING SLEEP.—Dr. A. McL. Hamilton, in a recent work on nervous diseases, gives the following table:

Lifting heavy weight or other muscular effort	12
Excitement (alarm of fire)	1
Violent exercise in drawing water	1
Falls	4
Fright	3
Thrown down by husband	1
Head injuries	8
Straining at stool	2
No history of cause	20
Total	52

Time of Attack.—At night, in thirty cases; during the day, in twenty-two cases. The fact that the large proportion of these attacks occur at night is an interesting one. They were mostly hospital patients, and some were irresponsible; so, of course, their statements are to be taken with allowance. One woman said: "I awoke in fright, and in attempting to rise found I was unable to do so." It is probable, therefore, that the condition was dependent upon disturbed cerebral circulation, connected with nightmare; nearly every one of these thirty patients found that they were paralyzed only when they awoke in the morning and attempted to get out of bed. Deducting the twenty cases without history of cause, it is found that at least ten patients must have lifted weights, got excited, strained at stool, etc., during sleep, which last facts give these statistics a decidedly queer aspect. The publishers of this work (H. C.

Lea's Son & Co.) should have employed some one to revise these statistics, as in their present form they are too great a tax on human credulity.

ACUTE RHEUMATISM IN INFANCY.—*Le Petit Moniteur de la Médecine* states that good results follow the use of the following pills in acute rheumatism in infancy: ℞. Quiniæ sulphatis, grs. xlvj; veratriæ, gr. 1-3; extracti digitalis, gr. iij. Misce et ft. pilulæ, No. xxv. Sig.: From eight to ten daily.

BACILLI OF GLANDERS.—Israel (*Berlin. Klin. Wochenschr.*, Nov. 23, 1883) succeeded in finding two bacilli in glanders, and he successively cultivated one of these. Rabbits vaccinated with fifth and sixth cultivations died from the infection. On post-mortem examination there were found characteristic lymphangitis, ulcers in the nose, and isolated patches in the lungs.

CREDULITY OF PHYSICIANS.—It would be rather difficult to match the credulity shown in the following letter: "*Editor Medical Brief:* Enclosed you will find a specimen of pins and needles that have been taken out of a patient whom I have treated. Myself and four other doctors have cut eight hundred and twenty-three needles, pins, fishhooks and pieces of wire out of the flesh of Miss Lydia Stokes, of Landersville, Lawrence County, Ala., within the past few years. The pins, some of which (as you will see) are twisted together, we found in her flesh just as you now see them. Miss Stokes is a very intelligent young lady." (Of course hysterical females sometimes are.) "She declares that she does not swallow nor stick them in herself. It is very mysterious to us how they get buried in her flesh, causing her great pain and vexation of spirit. Will some brother explain through the *Brief?*—J. T. PALMER, M.D., Macedonia, Miss." With such credulity in remembrance it is scarcely astonishing that the *Medical Brief* has a large circulation.

"INSANE FROM IMPRISONMENT."—Dr. S. V. Clevenger (*Chicago Medical Journal and Examiner*, June, 1884) says, respecting the influence of imprisonment in the production of insanity, that: "Paretic dements often commit assaults and other crimes in the beginning of their insanity, are sent to prison—the mental failure at this time not being easy to recognize—and when the insanity becomes gross enough to be noted by the prison physician, they are rejailed in asylums as rendered insane 'through imprisonment.' Requisite knowledge of this disease at the outset would save many a family the odium of criminality alleged to exist where there was pure insanity instead. But, while the insane are often sent to the penitentiary and hanged for crime (recently a madman was carried to the gallows in New Jersey in a strait jacket), the contract system of leasing labor in penitentiaries is a direct cause of insanity."

OÖPHORECTOMY IN INSANITY.—Dr. W. M. Thallow (*Archives of Medicine*, April, 1884) says that the value of this operation in insanity depends mainly on the condition of the ovaries. If these are affected merely functionally, the operation is wholly out of the question. If, on the other hand, organic changes in the ovary exist which are leading to mental impairment, then the operation is entirely justifiable. Dr. Thallow does not lay down any means of determining which is which.

INDICATIONS FOR CRANIOTOMY.——Dr. W. W. Jaggard (*Weekly Medical Review*, June 28, 1884) states that: 1. Craniotomy is indicated in case of a mature, undoubtedly dead child, without precedent trial of forceps or version, when the second stage of labor is retarded, the impossibility of the passage of the intact head, and the possibility of the passage of the excerebrated head is demonstrable. 2. Craniotomy is conditionally indicated when the mother's state of health permits no delay in artificial delivery, podalic version, even with the aid of an anæsthetic, is contra-indicated on account of *tetanus uteri*, and when the forceps would involve so much violence that the life of mother and child would be imperiled. 3. When it is doubtful whether the child is living or not, its preservation is improbable, or impossible, and the mother's life is endangered by further delay, the operation is indicated when the fœtal heart sounds sink under seventy per minute, or exceed one hundred and eighty, the conclusion of failing fetal life is perfectly justifiable. Elevation of the maternal temperature up to and above 40° C., tympanitic resonance upon percussion over the uterus, and the presence of a physometra indicate a dangerous state of maternal health. 4. Cases indicating the relative Cæsarian section—the child is undoubtedly living —when the mother decidedly refuses abdominal section, and delivery is impossible by a less radical method, and the excerebrated head can be extracted through the parturient canal, without danger to the mother, requires the performance of craniotomy.

SPONTANEOUS VERSION IN A SHOULDER PRESENTATION CASE.—Drs. Bristow and Sloan, Howe, Texas (*Medical Brief*, July, 1884) reports the following case February 28, 1884: They were called to a twenty-eight-year-old multipara. The messenger reported that an arm was down. They had to ride six miles, and found an almost exhausted woman and a veritable shoulder case, with the head and feet still in the utero-vaginal canal, and the dorsal portion of the child, from the neck to the nates, outside the vulva. They had no trouble in first withdrawing the feet, and then the head in a few seconds. The child was dead. The woman is naturally very stout, and was in excellent health at time of her confinement. The child was a plump, well-developed female child of average size.

KLEPTOMANIA.—Sergeant Ballantyne, a leading English lawyer, cites in his memoirs the following case of this disease: The wife of an eminent physician was suspected of stealing from a draper's shop. She was watched, followed and searched, and several small articles found concealed in her dress. She was given into custody, and went through the ordeal of an inquiry at the police court, and was committed for trial. The presiding judge was thoroughly impartial, knew all the law necessary for his position, but it was not very well packed in his brain, and the particles constantly came out at wrong times and places. The case, however, could hardly have been confused; the facts were perfectly clear; the whole of the lady's life, as far as its history was known, was not only free from reproach, but thoroughly rational. The only point that could be relied upon for the defense was that the articles stolen were so trivial that no sane object could exist for intentional theft, and the only suggestion that could be made in her favor was that she was not responsible for her actions, being compelled by an uncontrollable impulse, that she was the victim of kleptomania—not a very popular defense before a jury of tradesmen. However, after having been locked up for some hours, they were ultimately discharged without giving a verdict, a result arising probably more from compassion for the lady's husband than any doubts about the facts. Sergeant Ballantyne says that he thought at the time that if, instead of laying a trap for her, the proprietor of the shop had conveyed a hint, either to herself or to the doctor, it would have been the kinder course, and subsequent circumstances showed that in reality her conduct was attributable to insane influences, although certainly she knew thoroughly well that she was acting wrongly. She died very shortly after the ordeal she had undergone, broken down in health and spirit with the shame and disgrace, and the sergeant was consulted, after her death had taken place, by Dr. R., under the following circumstances: Every drawer and cupboard in the house was found to be full of new goods, which she must have been in the habit of abstracting during many years, and in every instance they were contained in their original wrappers. Mrs. R. was a religious woman, and every Sunday she listened with respect and veneration to the lessons taught in the church, and fully realized the commandment of "Thou shalt not steal." And it is clear that she, by the acts she committed, incurred danger and obtained no advantage. The sergeant advised Dr. R. not to make the discovery public, and the articles found were distributed amongst different charitable institutions. Can any one doubt that insanity irresistibly controlled her conduct? Now, while it cannot be denied that women (theoretically respectable), while shopping, often pilfer small articles of value, to them this conduct is very different from that of the lady described in the citation. Every physician in long practice will recall cases in which women became kleptomaniacal at pregnancy, and this tendency disappeared on delivery.

LARGE DOSES OF MYDRIATICS.—Dr. Jackson (*Medical Bulletin*, June, 1884) says: "Many practitioners come to regard the ordinary dose of atropia—say one-sixtieth of a grain—as nearly as much as it is safe to give to an untried patient. The common symptoms of atropia intoxication are also looked upon as evidence that the patient's life has been endangered by the dose of the drug which has caused them. But that these impressions were not well-founded was shown by an examination of the reports of the many cases in which large doses were taken, and in which the gravest symptoms were developed, but which terminated in recovery. His results were based on a study of two hundred and fifty-seven reported cases of mydriatic poisoning, of which but seventeen had terminated fatally. Among the more remarkable were twelve which had ended in recovery where the amount of atropia taken at a single dose was from half a grain to two grains and a half. A knowledge of these facts should lead practitioners to use the mydriatics more freely in cases where such use was indicated, and in the treatment of iritis, the symptoms of intoxication by atropine are not to be regarded as of any more grave significance than like symptoms produced by the use of alcohol or ether. That large doses might be used with safety was shown by the experience of Dr. Fuller, of London, who gave seventy grains daily of the extract of belladonna to a choreic child, and thirty-seven grains of atropia in eighteen days to another, while Dr. Sydney Ringer had repeatedly given a patient one-grain doses of atropine, daturine and hyoscyamine.

PREGNANCY AND EPILEPSY.—Dr. Béraud (*Archives de Tocologie*) concludes that: Pregnancy does not cause epilepsy; epilepsy so described is eclampsia. The influence of pregnancy upon pre-existing epilepsy is favorable, unfavorable or null. It either suspends the attacks, diminishes their frequency or increases their frequency. Generally the character, form and intensity of the attacks remain the same. The cases in which its influence is favorable are the most numerous. In the same woman the influence of pregnancy upon epilepsy is uniform. The effect produced by the first pregnancy recurs at the following pregnancies. The ultimate progress of epilepsy is not interfered with. The modifications which pregnancy exerts upon epilepsy cannot be determined beforehand. Epileptic attacks do not produce abortion or premature delivery. The children are born alive and at term. Labor does not cause epilepsy. Delivery does not affect pre-existing epilepsy. When delivery occurs during an epileptic attack it does not influence the uterine contractions. Marriage aggravates epilepsy. Bromidism, useful to the mother, does not injure the child. Epilepsy does not predispose to eclampsia. These conclusions, while in a general way correct, are too strongly put.

THE PUPILS IN COMA OF CHILDREN.—Dr. W. S. Little (*Medical and Surgical Reporter*, June 5, 1884) says that a child in a state of coma, with or without convulsions, whose pupils do not react to sharply pinching the epigastrium, is neither affected with tubercular meningitis nor with hæmorrhage into the pia mater. It is in an advanced stage of asphyxia, and its death is imminent.

CHINESE MUSK PLASTER IN SPRAINS.—Dr. D. J. MacGowan (*Chinese Customs Medical Reports*) has had beneficial results from the use of the Chinese musk plaster of extra strength. The first was a case of severe rheumatic lumbago, of ten days' standing, at first treated in the usual way without relief. The use of the plaster was followed by sleep in two hours, the next morning the pain was barely perceptible, and in three days it wholly disappeared. The second case was one of a sprained ankle with extensive tumefaction and intolerable pain; the application was made eleven hours after injury. Ten hours later the patient fell asleep. The next morning the joint was only painful upon pressure. By the fifth day walking was in a limited way possible. In a few days more the only trace of the injury was a stiffness of the joint, which continued much longer.

TATTOO MARKS.—The following procedure is said by Hallberg (*Druggist*, June, 1884) to prove very efficient in the removal of tattoo marks: Wash the part thoroughly with dilute acetic acid, half an hour after which apply the following: Caustic potash, four grains; water, one ounce. After the lapse of another half-hour use: Dilute hydrochloric acid, one dram; water, one ounce. This should be repeated daily; stronger solutions may be applied if they can be borne by the patient. [This prescription is non-political in character.—ED.]

COCA IN INEBRIETY.—Dr. W. Coles (*Weekly Medical Review*) says he has prescribed coca quite frequently within the last few years, and in many instances with most gratifying results. Its property of retarding thirst, while at the same time acting as a cerebral stimulant, renders it a most excellent substitute for ardent spirits, or beer, especially when persons have been indulging too freely and are attempting to break off the habit. It seems to strengthen will-power by removing that shakiness and mental depression which is one of the incentives with the inebriate to return to his cups. He has been told by intelligent patients that this drug certainly seems to possess the virtue of contributing to the relief of that longing which at times overtakes the drunkard with such overwhelming force. When administered under such circumstances it promotes a sense of composure, which enables the patient to sleep, whereas, when in health, the same dose would aid his faculties in keeping awake.

FURUNCLES.—The *Medical Press* says that it is well known that the matter of furuncles is inoculable spontaneously, and it would seem that this spontaneous inoculation is encouraged by the softening of the epidermis from the employment of the poultice so often used in this affection. The primitive boil becomes thus the point of departure for secondary ones, which manifest themselves in the neighborhood. To prevent this inconvenience Dr. Labbé employed successively for the dressing of furuncles a solution of chloral or phenic acid, but this dressing, undoubtedly antiseptic, did not hinder the softening of the epidermis; he had placed a layer of collodion around the furuncle. The result answered to his expectations, for no secondary evil appeared. M. Pasteur found the microbe of the furuncle at the summit of the pustule. However, it will be borne in mind that secondary evils do not always depend on auto-inoculation, but often are the result of a diathesis at present not well understood.

BIOGRAPHY.

Dr. Joseph Janvier Woodward.

Col. Joseph Janvier Woodward, Surgeon of the United States Army, died August 17th, near Philadelphia. He was born in that city in 1832. He received his education at the Philadelphia Central High School, where he was given the degree of A.B. in 1850 and that of A.M. in 1855, having acted as the valedictorian of his class. After receiving the first degree he entered upon the study of medicine, and in the spring of 1853 he was graduated from the University of Pennsylvania. He practised medicine in Philadelphia until August, 1861, when he was appointed an assistant surgeon in the regular army. He had already attained considerable prominence in his profession through the publication of a number of treatises on abstruse subjects, especially on the use of the microscope in the practice of medicine. He subsequently attained such eminence in this particular branch that he was regarded in the medical and scientific world as one of the leading authorities. He was brevetted captain, major and lieutenant-colonel on March 13, 1865, for faithful services.

On July 28, 1866, he was made captain and assistant surgeon, and was promoted to the rank of major and surgeon on June 26, 1876. In 1866 he was selected for the important duty of editing the "Surgical and Medical History of the Rebellion." He published a number of papers of great interest and value. Among them were "Address on the Medical Staff of the United States Army," "Remarks on Croup and Diphtheria," "Typho-Malarial Fever; Is it a Special Type of Fever?" "Remarks on Photographic Micrometry, with Special Reference to the Micrometry of the Blood in Criminal Cases;" report on "Medical Literature" and report on "Causes and Pathology of Pyæmia." When President Garfield was shot, on July 2, 1881, Dr. Woodward was in Washington in the Surgeon-General's Bureau. He was one of the surgeons first summoned to the bedside of the wounded President. He remained in constant attendance there until September 7, when he retired in company with Drs. Reyburn and Barnes. Various rumors were afloat as to the cause of the retirement, but the accepted statement was that President Garfield, who was about to be removed to Long Branch, did not deem it necessary that he should be accompanied by so many surgeons, and Drs. Reyburn, Barnes and Woodward retired in deference to his wishes.

During his residence in Philadelphia Dr. Woodward was a member of the Philadelphia County Medical Society. He was also a member of the American Medical Association, of which he was the second vice-president in 1875, and president in 1881; of the American Academy of Science, and of the Medical Association of the District of Columbia. He was a delegate to the International Medical Congress in Philadelphia in 1876. He leaves a widow.

The West Chester *Republican* says: "Coroner Fairlamb, of Chester, was called to Dr. Livingston's Asylum for the Insane, near Wawa, on the West Chester & Philadelphia Railroad, on Sunday Aug. 17, to hold an inquest on the body of Dr. Joseph J. Woodward, an inmate, who had committed suicide while laboring under unusual stress of mind. The doctor had been under care for about four months, but at no time was he violent or in any way troublesome. He generally preferred to be let alone, and evinced a delicacy in having any intrusion upon his privacy. Though of a strong and healthy physique, he imagined himself of a delicate constitution. He was as regular as clockwork in his habits, and among the best patients in the home. On Sunday morning he was passed on the stairway by one of the lady attendants, who saw him on the edge of the porch roof. A few minutes later, before anything could be done to rescue him, he threw himself off the roof backward, falling on the steps below, receiving injuries from which he died on the afternoon of the same day. Dr. Rowland, of Media, was summoned as soon as the casualty occurred, but nothing could be done for the unfortunate man. After being carried to a bed inside the house he regained consciousness, and asked what had happened, and, on being informed, said that from the time he had passed the attendant on the stairs until regaining his senses in the house everything was a blank. A verdict in accordance with the above facts was given. His mental troubles were brought on by overapplication. He was very sensitive on the question of suicide, and seemed very anxious to avoid any death that he thought would cast a reflection on the family."

DR. C. W. CHAMBERLAIN.—Dr. Charles Walter Chamberlain, Secretary of the State Board of Health of Connecticut, and a member of the National Board of Health, died in Hartford, August 21. Dr. Chamberlain was born in Providence, R. I., July 22, 1844, and was a son of the Rev. Charles Chamberlain. He was educated at Brown University and the College of Physicians and Surgeons in this city, graduating from the latter institution in 1871. He made a specialty of laryngology, and established himself in Hartford. He was Secretary of the State Medical Society in 1876, and contributed to the transactions that year two papers upon throat diseases, and in the following year a third paper on a similar subject. In 1877 Governor Hubbard appointed Dr. Chamberlain Examining Surgeon for the soldiers in the State hospitals. He was also for a number of years Examining Surgeon to the United States Pension Bureau, and was well known throughout the country as a distinguished sanitarian.

ROBERT E. ROGERS, M.D.—Dr. Robert Empie Rogers, a prominent physician of Philadelphia, died there September 6, 1884. He was born in Baltimore, Md., in 1814, and after a careful preliminary education he studied and was graduated from the University of Pennsylvania in 1836. From 1844 to 1852 he was Professor of Chemistry at that university, and assisted his brother, J. B. Rogers, in preparing his edition of "Turner's Chemistry," and on the death of that brother he succeeded him as Professor of Chemistry in the Medical Department of the University of Pennsylvania. In 1877 he resigned this position and accepted a similar one in the Jefferson Medical College in Philadelphia. He contributed to the *Journal of the Franklin Institute*, took part with his brothers in the geological surveys of Virginia and Pennsylvania, and edited the American reprint of "C. G. Lehman's Physiological Chemistry," 1855.

SELECTIONS.

A People Without Consumption, and Some Account of Their Country: The Cumberland Table-Land. By E. M. Wight, M.D., Chattanooga, Tenn., in the *Southern Practitioner*.

During the ten years that I have practised medicine in the neighborhood of the Cumberland Table-Lands I have often heard it said that the people on the mountains never had consumption. Occasionally a traveling newspaper correspondent from the North found his way down through the Cumberlands, and wrote back, filled with admiration for their grandeur, their climate, their healthfulness, and almost invariably stated that consumption was never known upon these mountains excepting brought there by some person foreign to the soil, who, if he came soon enough, usually recovered. Similar information came to me in such a variety of ways and number of instances, that I determined some four years ago, when the attempt to get a State Board of Health organized was first discussed by a few medical men of our State, that I would make an investigation of this matter. These observations have extended over that whole time, and have been made with great care and as much accuracy as possible; and, to my own astonishment and delight, I have become convinced that pulmonary consumption does not exist among the people native of and resident on the Table-Lands of the Cumberland Mountains.

In the performance of the work which has enabled me to arrive at this conclusion I have had the generous assistance of more than twenty physicians, who have been many years in practice in the vicinity of these mountains. Their knowledge of the diseases which had occurred there extended over a period of more than forty years. Some of these physicians have reported the knowledge of the occurrence of deaths from consumption on the Table-Lands, but when carefully inquired into they have invariably found that the person dying was not a native of the mountains, but a sojourner in search of health. In answer to the question, "How many cases of pulmonary consumption have you known to occur on Walden's Ridge among the people native to the mountains?" eleven physicians say, "not one." All of these have been engaged in practice there more than three years, four of them more than ten years, one of them more than twenty, and one of them more than forty years. All the physicians of whom inquiries have been made are now residents, or have been, of the valleys contiguous to Walden's Ridge, and know the mountain people well. Four other physicians, in answer to the same question, say that they have known from one to four cases, numbering eleven in all, but had not ascertained whether five of them were born and raised on the mountains or not. The names and place of death of all these cases were given, and I have traced their history and found that but three of them were "natives," or had lived there more than five years, and that one of these was fifty-seven years of age when she died, and had suffered from cancer for three years before her death. The two others died within six months after returning home from long service in the army, where both contracted their disease.

All these investigations have been made with more particular reference to that part of the Cumberlands known as Walden's Ridge than to the mountains as a whole. This ridge is of equal elevation, and of very similar character to the main Cumberland range in the southern part of Tennessee, northwest Georgia and northwest Alabama, and what is true of this particular part of the great Cumberland Table is, in the main, true of the remainder.

Sequatchee Valley lies between Walden's Ridge and what is commonly known in that neighborhood as the Cumberland Mountains, and separates it from the main range for a distance of about one hundred miles, from the Tennessee River, below Chattanooga, to Grassy Cove, well up toward the centre line of the State. Grassy Cove is a small basin valley, which was described to me there as a "sag in the mountains," just above the Sequatchee Valley proper. It is here that the Sequatchee River rises, and, flowing under the belt of hills which unites the ridge and the main range for two miles or more, rises again at the head of Sequatchee Valley. Above Grassy Cove the mountains unite, and hold their union firmly on their way north as far as our State reaches.

Topographically considered as a whole, the Cumberland range has its southern terminus in Alabama, and its northern in Pennsylvania. It is almost wholly composed of coal-bearing rocks, resting on Devonian strata, which are visible in many places in the valleys.

But a small portion of the Cumberland lies above a plane of 2,000 feet. Walden's Ridge and Lookout Mountain vary in height from 2,000 to 2,500 feet.

North of Grassy Cove, after the ridges are united, the variation from 2,000 feet is but little throughout the remainder of the State, and the general character of the table changes but little. The great and important difference is in the climate, the winters being much more severe in these mountains in the northern part of the State than in the southern, and the summers much more liable to sudden changes of weather. Scott, Fentress and Morgan counties comprise this portion of the table, and these have not been included in my examination, excepting as to general features.

In all our Southern country—and, I may say, in our whole country—there is no other large extent of elevated territory which offers mankind a more pleasant living place, a comfortable climate—none too cold or too hot—and productive lands. We have, east of the waters of the great Tennessee River, in our State, and in North Carolina and Georgia, the great Blue Ridge range of mountains, known as the Unaka, or Smoky, Chilhowee, Great and Little Frog, Nantahala, etc., all belonging to the same family of hills. This chain has the same general course as the Cumberlands. It is a much bolder range of mountains, but is vastly less inhabitable, productive or convenient of access. The winters there are severely cold, and the nights in summer are too cold and damp for health and comfort, as I know by a personal experience of two summers on Nantahala River. But the trout fishing is beyond comparison, and that is one inducement of great value for a consumptive *who is a good fellow*. These mountains are much more broken up into branches, peaks and spurs than the Cumberlands. They afford no table territory of any extent. There are some excellent places there for hot summer visits—Ashville, Warm Springs, Franklin and others.

The Cumberland Mountains, as a whole, are flat, in broad, level spaces, broken only by the "divides," or "gulfs," as they are called by the inhabitants, where the streams flow out into the valleys.

Walden's Ridge, of which we come now to speak particularly, is the best located of any part of the Cumberlands as a place for living. From the separation of this ridge from the main range of Grassy Cove to its southern terminus at the Tenessee River, it maintains a remarkably uniform character in every particular. From it access to commerce is easy, having the Tennessee River and the new Cincinnati Southern Railroad skirting its entire length on the east. It rises very abruptly from both the Tenessee and Sequatchee valleys, being from 1,200 to 1,500 feet higher than the valleys on each side. Looking from below, on the Tennessee Valley side, the whole extent of the ridge appears securely walled in at the top by a continuous perpendicular wall of sandstone, from 100 to 200 feet high; and from the Sequatchee side the appearance is very similar, excepting that the wall is not so continuous and of less height.

The top of the ridge is one level stretch of plain, broken only by the "gulfs" before mentioned, and an occasional prominent sandstone wall or boulder. The width on top is, I should judge, six or seven miles. The soil is of uniform character—light, sandy, and less productive for the ordinary crops of the Tennessee farmer than the soil of the lowlands. The grape, apple and potato grow to perfection, better than in the valleys, and are all never-failing crops; so with rye and buckwheat. Corn grows well—very well in selected spots and where the land is made rich by cultivation. The grasses are rich and luxuriant, even in the wild forests, and, when cultivated, the appearance is that of the rich forests of the Ohio and Connecticut river valleys, only here they are green and growing the greater part of the year; so much so that sheep, and in the mild winters the young cattle, live by the wild grasses of the forests the whole year. The great stock raisers of the Sequatchee and Tennessee valleys make this the summer pasture for their cattle, and drive them to their own farms and barns, or to market, in the winter.

The whole Cumberland table, with the exception of that small part which is under cultivation, is one great, free, open pasture for all the cattle of the valleys. Thousands of cattle graze there whose owners never pay a dollar for pasturage, or own an acre of the range, though, as a rule, most of the well-to-do stock farmers in the valleys own more or less mountain lands. These lands have until quite recently been begging purchasers at from twelve and a half to twenty-five cents per acre, in large tracts of 10,000 acres and upward, and perhaps the same could be said of the present time, leaving out choice tracts and easily-accessible places, which are held at from fifty cents to two dollars per acre—wooded, virgin lands.

The forest of Walden's Ridge is almost entirely oak and chestnut. Hickory, perhaps, comes next in frequency, and pine after. There is but little undergrowth, and where the forests have never been molested there are but few small trees. This is due to the annual fires, which occur every autumn, or sometimes in winter, almost without exception, and overrun the whole ridge. It does not rage like a prairie fire; its progress is usually slow, the material consumed being only the dry forest leaves and grasses. The one thing essential to its progress is these dry leaves, hence it cannot march into the clearings. Nearly all the small shrubs are killed by these fires; otherwise they are harmless, and are greatly valued by the stock men for the help they render in the growth of the wild grasses. The free circulation of air through these great unbroken forests is certainly much facilitated by these fires, since they destroy every year what would soon become impediments. The destruction of this undergrowth leaves the woods open, and the lands are mainly so level that a carriage may be driven for miles, regardless of roads, in every direction.

The shrubs about the fields and places where the forests have been interrupted by civilization and other causes are blackberry, huckleberry, raspberry, sumac, and their usual neighbors, with the azalea, laurel and rhododendron on the slopes and in the shade of the cliffs.

The kind of wild grasses, I regret to say, I have not noted, and the same of the rich and varied display of wild flowers.

The whole ridge is well supplied with clean, soft running water, even in the driest of the season. There are no marshes, swamps or bogs, no still water, not even a "puddle," for long distances, for the soil is of such a character that surface water quickly filters away into the sands and mingles with the streams in the gulfs. Springs of mineral water are abundant everywhere. Probably there is not a square mile of Walden's Ridge which does not furnish chalybeate water abundantly. Sulphur springs, with epsom salts in combination, are nearly as common.

The extent of Walden's Ridge is underlaid with veins of coal, and iron ore is plentiful, especially in the foot hills. The coal and iron are successfully mined in many places on the eastern slope; on the western, they are nearly untouched for the want of transportation. I find that the impression prevails that the minerals of the Cumberlands are largely controlled by land agents and speculators. This is only true as applied to a very small part of the whole—not more than one per cent. The mineral ownership remains with the lands almost entirely.

The prevailing winds on Walden's Ridge are from the southwest. Winds from the north or northeast are of rare occurrence. One old lady, who has resided there for forty years, in answer to my query upon this subject, said: "Nine days out of ten, the year round, I can smell Alabama in the air." This was the usual testimony of the residents. Winds of great velocity never occur there. In summer there is always an evening breeze, commencing at four to six o'clock, and continuing until after sunrise the next morning. In time of rain, clouds hang low over the ridge occasionally, but they never have fogs there.

The range of the thermometer is less on the table-lands than in the adjacent valleys. I have had access to the carefully-taken observations of the Lookout Mountain Educational Institute, such published accounts as have been made by Professor Sanford, State Geologist, Mr. Killebrew, the thorough and painstaking private record of Capt. John P. Long, of Chattanooga, and many more of less length of time. From all these I deduce the fact that the summer days are seven or eight degrees cooler on the mountains than in the Tennessee valley at Chattanooga, and five or six degrees cooler than in the Sequatchee valley, as far up as Dunlay and Pikeville. The nights on the table are cooler than in the lower lands by several more degrees than the days, how much I have thus far not been able to state. The late fall months, the winter and early spring, are not so much colder than the valleys as are the summer months, the difference between the average temperature of the mountains and valleys being at that time four or five degrees less than in the summer. There is no record of so hot a day ever having occurred on the Cumberland mountains as to cause the mercury to run so high as 95° F., or so cold a day as to cause it to run so low as 10° below zero.

In the average winter the ground rarely freezes to a greater depth than two or three inches, and remains frozen but a few days at a time. Ice has been known to form eight inches thick, but in ordinary winters three or four is the maximum. Snow falls every winter, more or less, and sometimes remains for a week. Old people have a remembrance of a foot of snow which lasted for a week.

Walden's Ridge has a total population of a little more than 4,000, scattered over 600 miles of surface. The number of dwellings is about 800. Ninety per cent. of these are log houses; seventy per cent. of them are without glass windows, light being furnished through the doorways, always open in the daytime, the shuttered window openings and the open spaces between the logs of the walls. Less than two per cent. of these houses have plastered walls or ceilings, and less than five per cent. have ceiled walls or ceilings. About twenty per cent. of them are fairly well chinked with clay between the logs, the remainder being but indifferently built in that particular. Fully ninety per cent. of these abodes admit of free access of air at all times of the day and night through the floors beneath as well as the walls and roof above. It is the custom of the people to guard against the coldest of days and nights by hanging bed-clothes against the walls, and many good housewives have a supply of tidy drapery which they keep for this purpose alone.

Wood, always at hand, is the only fuel in use. The whole heating apparatus consists in one large open fireplace, built of stone, communicating with a large chimney outside the house at one end, and frequently scarcely as high as the one-story building which supports it. This chimney is constructed in such a manner as to be a great ventilator of the whole room, quite sufficient, it would be thought, if there were no other means of ventilation. It is usually made of stone at the base, and that part above the fire is of sticks laid upon one another, cob-house fashion, and plastered over inside and between with similar clay to that with which the house walls are chinked.

Very few of these houses are more than one story high. They are all covered with long split oak shingles—the people there call them "boards"—rived from the trunks of selected trees. There is no sheathing on the roof beneath these shingles. They are nailed down upon the flat hewn poles running across the rafters, at convenient distances. Looking up through the many openings in the roof in one of these houses one would think that this would be but poor protection against rain, but they rarely leak.

Not one family in fifty is provided with a cooking stove. They bake their bread in flat iron kettles, with iron covers, covered with hot coals and ashes. These they call ovens. The meat is fried, with only the exception of when accompanied by "turnip greens."

The question, "What is the principal food of the people who live on these mountains?" has been asked by me several hundred times. The almost invariable answer has been: "Corn bread, bacon and coffee." Occasionally biscuits and game have been mentioned in answers. All food is eaten hot. Coffee is usually an accompaniment of all three meals, and is drunk without cream, and often without sugar. Some families eat beef and mutton for one or two of the colder months in the year on rare occasions, though beef is commonly considered "onfit to go upon," as I was told upon several occasions, and mutton sustains less reputation. Chickens are used for food while they are young and tender enough to fry, on occasions of quarterly meetings, visits of "kinfolks" or the "preachers," and the traveling doctors. Fat young lambs are plenty in many settlements from March to October, and can be had at fifty cents each, but I could not learn that one was ever eaten.

A large majority of the adult population use tobacco in some shape—the men by chewing or smoking, the women by smoking or dipping snuff. They never have dyspepsia, nor do they ever get flesh after they pass out of childhood, though nearly all the children are ruddy in appearance, and well rounded with fat.

One physical type prevails among the people in middle life, and carries along into old age but little change; and old age is common there. Nearly every house has its old man or old woman, or both. Everybody, father and mother, and frequently grandfather and grandmother are still on hand, looking as bright and moving about as lively as the newer generations. After they pass their forty years they never seem to grow any older for the next twenty or thirty, and the grandfathers and grandmothers can scarcely be selected by comparison from their own children and grandchildren. The men are taller than the average, and the women, relatively, taller than the men. They are all thin-featured, bright-eyed, long-haired, sharp-looking people, with every appearance of strength and power of endurance.

I think the men who live on Walden's Ridge can safely challenge the world as walkers, aborigines and all; and unless the challenge should be accepted by their own women folks, I feel quite sure they would "win the boots." They go everywhere on foot, and never seem to tire.

Nearly all the people of the table-lands are employed in pursuits of agriculture. Very few of them seem to be hard workers. The men are all great lovers of the forest sports, much given to the good, reliable, old-fashioned long rifles. The women and children are much employed in outdoor occupations, and live a great portion of their time in the open air. The clothing of all classes is scanty. The use of woolen fabrics for underwear has not yet been introduced, and coarse cotton domestic is the universal shirting, and cotton jeans, or cotton and wool mixed, constitute the staple for outer wearing apparel. The men wear shoes throughout the year much more commonly than boots, but never wear gloves, mittens, scarfs or overcoats, and they scorn umbrellas. Probably this whole 4,000 people do not possess two dozen umbrellas, or thrice as many overcoats. The women go about at home with bare feet a great part of the summer. They never wear corsets or other lacing.

I have learned by careful inquiry that very few of the people of the Ridge have ever had the diseases of childhood. Scarlet fever I could hear of in but two places, and I suppose that not one person in fifty has had it. Whooping-cough and measles have occurred but rarely, and the large majority have not yet experienced the realities of either. Very few people there have ever been vaccinated, nor has small-pox ever prevailed. Typhoid, typhus and intermittent fevers are unknown. In the great rage of typhoid fever which took place ten or twelve years ago in the Tennessee and Sequatchee valleys not a single case occurred on the mountains, as I have been informed by physicians who were engaged in practice in the neighborhood at the time. Diphtheria has never found a victim there; so for croup. Nobody has nasal catarrh there, and a cough or a cold is exceedingly rare.

The whole Cumberland table is no small country. It comprises territory enough to make a good-sized State. At present it is almost one great wilderness, in many particulars as unknown as the Black Hills. It is coming into the world now, and will be well known in a few years. The great city of Cincinnati has built a railroad through the very centre of this great table-land in the north part of the State, connecting with Chattanooga in the southern part.

It seems to me this country has merits. It is located in the latitude of mild climate, not so far south as to be scorched by the hot summer sun, or visited by the great life-destroying epidemics, nor so far north as to meet the severe and lengthened winters.

Climate, we know, is a fixture; it has a government; it has rules; the weather may change, but climate does not; it is a permanent outdoor affair, and what is true of to-day was true centuries ago, and will be true forever, in the measure of any practical scope, at least. The people of the world are beginning to know that the greatest destroyer of human life has its remedy in climate.

Mr. Lombard, in his famous exhibit in relation to the prevalence of consumption among the people of different occupations, circumstances of life and place of dwelling, gives the lowest number of deaths from this cause to those who live in the open air. He found the people who lived most in the open air, as would be readily conjectured, in the mild latitudes, not in the countries of hot sands or cold snows.

NOTE.—This is the country for the consumptive, or for those with consumptive tendency. This is the season for making further inquiry. —ED.

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INCONTINENCE OF URINE IN CHILDREN. By SAMUEL S. ADAMS, of the District of Columbia.—He has examined all the literature of the subject, including articles in German, French, Italian and Spanish, from the year 1784 to the present date. In 1784 Mitchel wrote as clearly on the disease as any subsequent author, and its pathology was as well understood then as now. From birth the child instinctively voids its urine, as the act is reflex. About the eighteenth month the child begins to exercise complete control over the sphincter, after this time incontinence is attributed more to carelessness than to a pathological condition. This he considers a great injustice, particularly as children are often punished. All of his cases have had a specific cause. There are three varieties of incontinence: 1. Where there is a constant dribbling, this is not frequent. Two such cases he had seen were due to vesical calculi. 2. Intermittent incontinence, often met with in girls. They lose control of the sphincter before getting to the closet. 3. Nocturnal incontinence. The same causes that produce seminal emissions in adults bring on this condition in children. Enuresis is often superseded by seminal emissions, and the same remedies often relieve both conditions. It is a conservative process following undue irritation, occurs most frequently between eight and twelve years. Cases were then cited in which the causes were phimosis, calculi, ascarides in the rectum and vagina, hip disease, and amorous dreams. He does not approve of chloral for children. In exalted nervous conditions the bromides are to be given; belladonna is the best to allay irritability and relax spasm.

SANITARY DEPARTMENT.

Disinfectants and How to Use Them.

Drafts of air for all floating foulness; dry rubbing for all easily-detached foulness; wiping and scrubbing for all attached foulness in most cases admit of no effective substitution. Submersion in boiling water is applicable to the cleansing of all garments, utensils, etc., admitting of such a method; and dry boiling heat or freezing cold will also neutralize infective particles.

To disinfect a room, ship or building so needing disinfection that its contents and surfaces cannot be easily dealt with singly: Close the room or building, its windows, doors, and chimneys, so as to exclude the outer air as far as possible. Vacate the house. Break roll sulphur in small pieces, place it on an iron plate or other metallic dish, and set this on a pair of tongs or other cross bar over an iron pot in which there is water, or over a large box of sand, so as to avoid danger of fire from small particles of burning sulphur. Light it by a few hot coals or some alcohol poured around the sulphur and lighted. Then leave and shut the door after you. A pound and a half of sulphur is sufficient for 1,000 cubic feet of space. The sulphur will convert all the oxygen of the air into sulphurous acid, and all organic particles are likely to be changed. Keep closed three hours after the burning has ceased, and then air well six hours before occupying. Clothing and bedding needing disinfection may be hung on lines and left in the room. Most furniture is not permanently injured, but needs dry wiping and then washing off afterward.

Chloride of Lime.—A valuable disinfectant, chiefly because it contains from 30 to 35 per cent. of chlorine, which is liberated under proper methods of use. If purchased for cities, it should be tested as to the amount. It is not overrated as a disinfectant if only its quality is known and its mode of use is judicious. It needs slight moistening, frequent stirring, and sometimes the addition of an acid, as vinegar or common spirits of salt. The test of its efficiency is that the odor of it be kept constantly perceptible.

Chlorinated Soda, usually known as Labarraque's solution, is a convenient liquid preparation valuable for use in saucers in the sick room, or in utensils. Its odor should be perceptible to strangers entering.

Lime—Plaster—Charcoal—Dry earth—Sifted ashes.—All these have value, chiefly to be tested by the rapidity with which they correct odors. Fresh slaked lime should be scattered in all places of foul odor. It or charcoal or plaster may be scattered over heaps emitting foul odors. Calx powder is made by pounding one bushel of dry fresh charcoal and two bushels of stone lime and mixing them, and is of great practical use. All the substances absorb foul gases and dry up moisture, and so help to retard decomposition, or else absorb its results. Where lump charcoal is used it may be refitted for use by reheating it. Quicklime and ground plaster should not be used where they may be washed into pipes and form lime soap or obstruct by hardening.

The Metallic Disinfectants.—Sulphate of iron (copperas or green vitriol), two pounds to a gallon of water, to be sprinkled freely in drains, cesspools, privy closets, soiled vessels or heaps of decaying matter which cannot be removed at once. One half of the strength will do where it is to stand in contact with the surfaces or in spittoons, water closets, houses, vessels or vaults. One half pound of sulphate of iron (green vitriol), or one ounce of sulphate of zinc (white vitriol), or one ounce of sulphate of copper (blue vitriol), or one ounce of chloride of zinc (butter of zinc), or one ounce of chloride of lime (bleaching powder), put to a quart of water—any one of these is available for neutralizing discharges, or for sinks, used in quantities sufficient to cover the bulk they are intended to disinfect. Soiled garments may be put to soak in a half pound of sulphate of zinc (white vitriol) to three gallons of water. It will not stain or discolor most fabrics. One ounce of the chloride of lead dissolved in a pint of hot water, and then a pailful of water added into which a handful of common salt has been thrown, serves a similar purpose. Also a half ounce of permanganate of potash to a gallon of water. For washing, soiled garments should be put in boiling water, unless the character of the fabric forbids it. Powdered borax, one quarter of a pound to a gallon of water, is a good cleanser of clothing. Soiled hair brushes, etc., are cleansed by it. Chloride of zinc, one quarter of a pound to a gallon of water, does not stain or discolor fabrics. Parkes recommends two ounces of chloride of lime, or one ounce of sulphate of zinc, or one-half of a fluid ounce of chloride of zinc, to be added to each gallon of the boiling water in which the garments are thrown. On clothing that cannot be washed and does not need to be burned, after thorough shaking and airing, the sulphate of zinc or chloride of zinc solution may be sprinkled.

For general disinfection the following compound is available and valuable, and far better than most of the patented articles offered: Sulphate of iron (copperas), forty pounds; sulphate of lime (gypsum of plaster), fifty pounds; sulphate of zinc (white vitriol), seven pounds; powdered charcoal, two pounds. Mix well and scatter dry, or wet it in small quantities and make into balls ready for use. Where a liquid is needed, stir in water in the proportion of a pound of the powder or ball to a gallon of water, and sprinkle when needed.

Carbolic Acid.—This is valuable as an out-door disinfectant, to be added to the sulphate of iron solution, or to be used separately. Because of its own odor we cannot well test its effect in correcting other smells. We should test specimens or use only Squibb's liquid, No. 1, because sure of its strength, to be diluted by adding from fifty to one hundred parts of water, according to the mode of its employment. It is seldom required if the other articles named are properly used. Carbolic acid and chloride of lime must not be used together. Remember that we do not know that any chemical disinfectants destroy the germs of a disease; they only neutralize or suspend the action of those artificial disease producers or fertilizers which the bad administration of cities or householders, or interference with natural laws, or neglect of cleanliness, has provided. We are to rely on these palliatives or correctives only while we are preparing for radical methods of prevention.

Present Wholesale Prices of Disinfectants.—Sulphate of iron (copperas, green vitriol), 4½ cents per pound; sulphate of zinc (vitriol), 6 cents; chloride of lime (in bulk), 2 cents per pound; in packages, 6 cents; sulphur roll, 2½ cents per pound; carbolic acid (Squibb's No. 1), 30 cents per pound; zinc and carbolic acid, disinfectant of N. Y. Board of Health, 40 cents per gallon; permanganate crystals, $1.10 per pound; fifty per cent. solution chloride of zinc, 25 cents per pound; solution of chlorinated soda (Labarraque's), 10 cents per pound.

An important legal decision was rendered in England by Mr. Justice Field in a case where a claim was made for rent for furnished apartments for the term of the lease, the lessor refusing to occupy the house because after the lease was made and before the lessee vacated the apartments, a case of an infectious disease appeared in the rooms. The defendant claimed that the existence of a contagious disease in a house rendered it uninhabitable, and the justice rendered a decision favorable to the defendant.—*Sanitary News.*

ORIGINAL CORRESPONDENCE.

15 Rue, Caumartin, Paris, August 25th, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Doctor: Contrary to universal expectation the cholera has not reached Paris, though, in some respects, the city has suffered as much as if the epidemic had really visited it.

Influenced by sensational newspaper articles, and especially by the communications of certain physicians who have sought to advertise themselves, Paris is almost deserted by the "upper crust" of society, while but few strangers have the temerity to enter its gates. As a natural consequence the hotels are empty, and the so-called "fashionable physicians" have nothing to do—have more of a holiday than their health requires or their purses can conveniently endure. Of my own clientele, at least nine-tenths are "out of town," and transient cases are, "like angels' visits," not greatly to be relied upon.

It is true that there have been several deaths reported from *cholera nostras,* which is simply *cholera morbus* under a new name, but the number has not been greater than during the summers of other years. As it is, however, only a "toss up" between a hangman's rope and a bad reputation, Paris has suffered as severely in this regard from the cholera panic as it would have done from a cholera visitation; and it is in vain that Cook, Gaze, Craighill *et id genus omne,* have spread their nets for travelers upon this side of the channel. Even the American Exchange—that paradise of American tourists—looks solitary and deserted, and its managers are taking an enforced vacation as well as the rest of us.

There has been much discussion in the Academy on the subject, and its members have divided themselves into two hostile and belligerent camps, according to the custom of that august Body. One party, headed by Jules Guérin, maintains that cholera is, etiologically, unique and identical; that the so-called *cholera nostras* and *cholera Indien* are only degrees and modifications of the same pathological entity; that a cholera epidemic is invariably preceded by a premonitory diarrhœa, and that the disease itself has no special habitat, but developes whenever producing causes and favoring circumstances exist in combination, without regard to climate or topography.

The other party, headed by Proust, who accompanied Brouardel to Toulon, and has since been promoted to the position of Inspector-General of the Sanitary Service, vice Fauvel, removed for having made a fool of himself, insists that *cholera nostras* and *cholera Asiatique* are essentially different from each other; that the one is indigenous, benign and non-contagious, and the other is exotic, malignant and contagious; and that a precedent diarrhœa is not an essential and invariable element, but only an accidental and inconstant circumstance in the clinical history of cholera epidemics. It also takes the ground that the Toulon epidemic is Asiatic cholera, and was imported, and that it is destined to pursue the same course as its predecessors have done since 1832.

Though Guérin has presented many strong arguments in support of his views, and is indefatigable in his advocacy of them, he is in a hopeless minority in the Academy.

This is to be accounted for, in a measure, by the peculiar character and manner of the man himself, for academicians are not above the prejudices and weaknesses of humanity. By nature overbearing and arrogant, he so conducts a debate as invariably to insult his opponents, and to antagonize his auditors. He speaks as if he were the great oracle in medicine, enunciating laws rather than stating propositions, and promulgating fiats instead of deducing conclusions. He assumes the tone and style of a master, with whom to differ is to display inferiority, ignorance and presumption. His discourses are but diatribes, aglow with invective, teeming with denunciation and bristling with personalities. He is, in fact, the Comanche of the Academy, eternally on the war-path, content with nothing but broils and conflicts, and satisfied with no victory unless it be crowned with the scalps of his victims. Nor is it in any Pickwickian sense that he hurls about him his fierce invectives, his bitter irony, his scathing ridicule and his stern defiance; for he " means fight," in the literal signification of the term, and *à l'outrance,* notwithstanding his seventy odd years and his high position. He is as prompt to demand or to give " satisfaction " as the most typical of " fire-eaters," and he is prouder of his many " affairs of honor " than of his professional honors, and his successful *concours.*

The allures of a scientist are certainly not his. Short and compact in stature, with prominent features and a rectangular chin, heavy brows, from beneath which two cold gray eyes look defiantly, a massive bald head, which might serve as a round shot in an emergency, and a carriage in which the style of the Indian and of the peacock have blended themselves in singular harmony, Dr. Jules Guérin would never be taken for an academician by the uninitiated. Indeed, his remarkable " get-up "—his glistening *chapeau de Léon,* his close-fitting coat of the latest agony of the Boulevards, his variegated and voluminous scarf, with its *épingle de diamant* shining like the alarm light of a locomotive, and the galaxy of glittering rings which adorn his fingers, would pass him among strangers rather as a magnate of the turf than a *savant* of the Schools. And yet, notwithstanding these eccentricities of character and peculiarities of person, he has few equals in the ranks of the profession. With a boundless store of knowledge, and great dexterity as a surgeon, he possesses an originality of conception, a power of analysis and a readiness in the employment of his faculties which render him a formidable adversary in the Academy, and a man of note and consequence in all regards. He may be hated by his comrades—he may be regarded as the *enfant terrible* of the arena—but all acknowledge his genius, and avoid him as an adversary. Though always in the minority, he is invariably its leader, and however much he may antagonize, by his insulting manner and his domineering spirit, he never fails to make himself felt and feared by his colleagues. He does not carry his points, but his arguments remain unanswered; and he bears off the laurels of the polemic, if not the fruits of the ballot.

All this has been signally verified in the recent debates on cholera. His facts cannot be controverted; his arguments are unanswerable, and he is rightfully the master of the field; and yet he finds himself a minority, with scarcely a corporal's guard of supporters. Surely this blind devotion to tradition, and this subserviency to cliquism in those who should be models of impartiality and independence as regards everything relating to science is enough to stir the blood even of those less susceptible than this belligerent old man.

Why the dogma of "importation" should be insisted on in this connection, when Brouardel, after the most exhaustive investigation, has declared his inability to trace it, is a question which the members of the Academy would find difficult to answer satisfactorily. How the fact so persistently insisted upon and positively established, that cholera has appeared simultaneously in localities removed from each other and having no connection, should be disregarded by Proust and his followers is a mystery which ordinary minds cannot fathom, whatever the savans may say to the contrary.

As the cholera will not come to Paris, Guérin has determined to go to it, and he has started for Marseilles to see the disease for himself, and to collect fresh facts and arguments with which to confound, if not to convince, his adversaries.

It is certainly a wonderful thing to see a man past the age ordinarily allotted to human existence leave his home, with its comforts, and expose himself to the deadly influences of such an epidemic, simply that he may arrive at the truth, and with the hope of advancing the cause of science.

Doctor Koch has returned to the more congenial atmosphere of Berlin. He has neither friends nor followers in France, and not only is his "characteristic microbe" repudiated by the Profession here, but the action of the Government in according him a decoration is severely criticized.

Doctors Straus and Roup, who worked with him at Toulon, have recently made their report to the Academy, in which they take decisive ground against his alleged discovery. They state that they made eighteen autopsies, and that, although they found the microbe described by Koch, it was not invariably present, and was absent in the cases of greatest gravity. This result, they allege, exactly confirms that of their investigations at Alexandria, and convinces them that the bacillus of Koch is not the bacillus of cholera. Until it has been shown that it is possible to produce cholera by vaccination with this microbe, that it exists in every case of that disease, and that it is present in no other connection, Dr. Koch's theory cannot be accepted by the Profession, and must be regarded as a fallacy.

It is a singular circumstance, and one of importance, that this microbe is found abundantly in vaginal leucorrhœa, as well as in other diseases having no relation with cholera. The report was received with great applause by the Academy, the strong anti-German feeling of that body giving zest to the occasion, and expressing itself, likewise, in assaults upon the luckless Minister who rewarded the pretended discoverer with the cross of the Legion of Honor, without announcing the fact in the *Journal Officiel*.

Among the many curious things which the cholera panic has brought forth is the crusade against ice, in which the papers of Paris have indulged. According to them, that which has all along been regarded as a luxury is really a poison—is but a nursery and storehouse for morbific germs, pregnant with disease and disaster to the human family. In the plentitude of their wisdom they have discovered that the freezing process is only a means by which nature collects, concentrates and husbands elements for the production and propagation of zymotic disease. So great is the prejudice which has consequently been awakened against the article in question that the dealers in it are nearly ruined, while its use has become, in popular estimation, a veritable sort of defiance of the laws of nature and the dispensations of Providence. I have been in daily fear of a police regulation against the sale of it, and I have been obliged to dismiss a *maître d'hotel* because, in his settled conviction that I was inviting a visitation of cholera, he persistently neglected to keep my table duly supplied with ice water. In response to my complaints he looked very grave, shrugged his shoulders, and muttered something about "microbes" and *l'Acadêmie de Médecine*, but persistently adhered to his prejudice and in his insubordination.

The practical experience of the American Public certainly furnishes a sufficient answer to these would-be reformers. Whatever ills it may induce, there is no instance upon record, so far as my knowledge goes, in which it has proved a source of infection to the human system. Indeed, all experience proves it to be an invaluable agent in the treatment of fever, whether of zymotic origin or not; and the physician who would reject it upon such purely hypothetical grounds as those which have been recently promulgated in Paris is almost as much of an idiot, as a certain individual here who professes to cure every disease which flesh is heir to, including cholera, by applying ice to the spinal column. The world is certainly under obligation to French science for many valuable discoveries, and, should Pasteur succeed in rendering hydrophobia comparatively harmless, as seems probable from the report of the committee appointed by the Government to supervise his work, the debt will be immeasurably increased. There are other *discoveries*, however, for which Frenchmen are entitled to less consideration than they claim. I refer to the bringing forward of ideas and methods which have long been known to other people, and pretending that they are original with themselves.

In the arrogance of the Gallic nature, French is regarded as the vernacular of the gods, the language of science and civilization, the only tongue worthy of study and use. As but few understand foreign languages, the books of other countries are not read and their advances are unknown, and hence it is that a wide and inviting field for *discovery* (?) is open to those who are brought into relations with the "barbarians of the outer world," or who are so unpatriotic as to learn some other language beside their own.

I constantly hear, therefore, of the *discovery* of remedies with which I have been familiar since my student days. Thus it was that a prominent practitioner of Paris *discovered*, a few years ago, a remedy for rheumatism and gout, out of which he garnered laurels and coined money. You will be surprised when I tell you that the "new agent" which he added to the codex, and made a stepping stone to fame and fortune, was nothing more nor less than salicylic acid, a remedy about which there had been endless discussion in England and America for at least ten years previously.

In the same way, and with as great a flourish of trumpets, he more recently *discovered a specific* for asthma, and you will not be surprised to learn that this addition to modern therapy was, *mirabile dictu*, the *iodide of potassium*, in combination with the *syrup of polygala senega*, a prescription which originated with Dr. Green, of New York, some thirty years ago, and has been mentioned in every text-book on the practice of medicine that has since been published.

Not the strangest part of these performances is that the discoveries were deemed of so much importance to the Public as to justify the publication of a full history of them in the daily papers. In the same way, a practitioner of this city has been flooding the newspapers for the last five years with accounts of his *discovery* of a plan for treating disease by the application of ice to the spinal column, a system with which the Profession of the United States has been familiar for a half a century. Since this letter was commenced I have had a case of post-partum hæmorrhage, which presented a peculiar feature. Although I removed the clots six different times, and used all the remedies known to science—including the subcutaneous injection of ergot, and the injection of hot water—the bleeding continued, and I was in dispair of saving the patient's life. Finally, in removing the accumulated clots, I found a veritable hour-glass contraction of the womb, with a large cavity beyond the point of constriction filled with blood. Having overcome the contraction, emptied the cavity of its contents, reinjected ergot under the skin, and again washed out the cavity of the womb with hot water—to which the tincture of the muriate of iron had been added—I had the satisfaction of feeling the contracted organ above the pubes, and of arresting the flow of blood. The placenta and membranes had been promptly discharged, and it appeared to me an extraordinary circumstance to find an hour-glass contraction connected with a post-partum hæmorrhage. I would, therefore, suggest a thorough examination of the uterine cavity in every instance in which this alarming symptom presents itself, as I have no doubt that fatal issues have often resulted from such abnormal contractions.

I am very truly yours, etc.,

EDWARD WARREN (Bey), M.D., LL.D.

CANTON, OHIO, June 18, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: In the June number of your JOURNAL (page 709) there is a short article on " Beer " to which I wish very briefly to call your attention, and more particularly to the closing paragraphs, viz.: " That the habitual use of beer, now so general, produces excessive chronic congestion of the kidneys, leading gradually to the establishment of disease of those organs, there can be but little doubt. The disease produced is usually some form of Bright's disease. Every day's paper contains the names of its victims. The reason for this is manifest: it is the pernicious and foolish habit of daily indulging in beer drinking."

I have not a word to say in contradiction of this, but will ask the question, Is it the whole truth? Do not people who are not beer drinkers frequently die from Bright's disease? Most certainly. Then it follows that beer drinking is only one cause, or simply a single factor in the great producing cause of this malady as well as a large number of other forms of disease which all result from malassimilation and non-nutrition, which owe their origin not alone to beer drinking but to the daily use of other substances which influence the system in the same way that beer does. What is there in beer alone, which it is claimed is so productive of this disease, which the vast majority of people are not taking in other forms in their daily ingesta of food and drinks?

So far as my observation goes—which of course is very limited—there is nothing taught in the medical schools, nor by the medical authorities, that in my judgment is sufficiently clear and explanatory of the cause and origin of Bright's disease. I have reached certain conclusions, in my own mind, which are largely the results of my own observations in practice, which are satisfactory to me, at least, in accounting for these varied phenomena of disease on the theory that I have here indicated: that of *mal* and *non assimilation* and *nutrition*. I have little hesitancy in saying that Bright's disease, and other forms of paralysis, in their incipiency, are readily amenable to treatment, if properly treated, with a clear understanding as to their origin and cause. In support of this I can ring substantial proofs and reasons for the faith that is in me.

Very respectfully,
GEO. B. COCK.

NOTE.—As the position taken in the JOURNAL was that beer swilling is only one of the causes of Bright's disease, though a very frequent cause, this letter is published without further comment, and with the hope that the subject may elicit further attention.—ED.

FAYETTE, MISS., August,, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: In the July number of your JOURNAL Dr. " W. R. C." relates a case of labor in which a living child was born with membranes intact; that is, in his own language, " child, placenta, and the bag of water, unbroken, came down all together." In this case the child was " very small," and lived only a few hours. I have witnessed one similar case in a multiparous woman at full time. In this case the second stage of labor was rapid, and the quantity of liquor amnii moderate. I immediately ruptured the membranes and discovered a vigorous female child of medium size. The labor was bloodless, and the result favorable to both mother and child.

Respectfully,
N. L. GUICE, M.D.

To the Editor of Gaillard's Medical Journal:

SKOWHEGAN, Me., July 23, 1884.

DEAR SIR: In writing on surgery, I often meet with expressions from which one would infer that extension and counter-extension, powerful and steady, were difficult to procure. One recommends a system of pulleys; another employes a file of stout men. I have for years used a simple lever ("2d kind"), attaching the counter-extending bandage to the head-post of my patient's bedstead, my extending bandage (as the weight) to the lever, using the foot-rail of the bedstead as the fulcrum. A force is thus obtained, powerful, steady, long-continued, and ready at hand at any point from the City Hospital to the dense forest. If you have no bedstead, use for fixed points the opposite ends of a stout pole instead of bedpost and rail.

G. A. WILBUR, M.D.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this ; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK OBSTETRICAL SOCIETY.—REMOTE PUERPERAL HÆMORRHAGE. By T. GAILLARD THOMAS, M.D., Clinical Professor of Diseases of Women in the College of Physicians and Surgeons, New York.

Since I last attended a meeting of the society I have met with two cases which have suggested to my mind the considerations which form the basis of what I am about to say. I refer to a form of hæmorrhage which comes on three weeks or a month after labor, after the physician has ceased making his visits. Some days ago the late Dr. McClintock, of Dublin, wrote a paper on this subject, and called it "remote or delayed puerperal hæmorrhage," and Dr. Mundé has recently written an article bearing upon the same point, published in the *American Journal of Obstetrics.* I have seen a good many of these cases, and the history of one which I will relate illustrates the experience that I have had with most of them.

In such a case the uterus may have contracted after labor, and everything have gone on properly until the ninth day, when the physician has ceased to make his daily visits, but from that time the woman begins to lose blood steadily. If she makes a little unusual effort, or if anything occurs in the family to cause considerable mental excitement, an exceedingly dangerous hæmorrhage may take place, which will require to be checked with the tampon. If sudden and profuse hæmorrhage does not occur, demanding the services of a physician immediately, a steady loss of blood in moderate amount may continue for a week or ten days, until the woman becomes very much exhausted.

The particular case of which I have had the history in mind in the foregoing remarks was that of a lady to whom I was called in consultation by a German physician of considerable experience. Ten months before, the patient had called at my office and had given a somewhat peculiar history. She had been married for several years, her husband was a vigorous, healthy man in every respect, and she a remarkably handsome and well-formed woman; and yet no intercourse had ever occurred. On examination, it was found that she was suffering from a very aggravated form of vaginismus. Her husband had exhausted all his efforts, and her mental state had become such that she could not entertain the thought of sexual intercourse. An operation was performed, at the end of a month the patient left the hospital, and just nine months later she was delivered of a child. About the end of the seventh month of gestation the veins leading from each labium majus became greatly enlarged, and the parts presented the appearance of a mass of earthworms of the size of one's fist. I had seen the condition in so marked a degree but once or twice before.

On the ninth day after delivery hæmorrhage occurred, and she sent for her physician, who used all the ordinary means, including ergot, tannic acid, dilute sulphuric acid, etc., for stopping it, but without avail. The tampon, however, was not resorted to. About three weeks after her delivery the patient was seized with very profuse and violent hæmorrhage, which reduced her very much. It came on after she had got out of bed. When her physician reached her the hæmorrhage had ceased. Each time it had begun with the passage of a large blood-clot. On this occasion I was consulted, and I visited the patient three days later—the next time that hæmorrhage occurred. I took with me a nurse, and instruments for dilating the uterine canal and for removing the remains of membranes. Her physician, however, felt very positive that none of the membranes had been left in the uterus, and stated that he had examined the placenta very carefully, and that there was no interruption of its continuity whatever. But I felt equally positive that some of the placenta yet remained in the uterus.

When the patient had been placed on the table and the ether-cone had been applied over her mouth, she suddenly sprang up in a state of wild excitement, and could not be induced to continue the inhalation of the ether, it had affected her so badly when she was operated upon for vaginismus. All means of persuasion were futile, and her friends desired that she should be compelled to take the anæsthetic. But I objected to compulsion, because, under such circumstances, after delivery, I have seen most violent and uncontrolable mania developed. In one instance the mania continued three weeks, during which time the patient was very violent, and had to be watched constantly by a nurse. It is true the mania seemed to be of an hysterical nature, but, nevertheless, it was very violent. I think we cannot be too careful as to doing that which is strongly opposed to the will of a puerperal woman. I would rather have run the risk of a violent hæmorrhage in this case than have forced the patient to take the ether. She was spoken to kindly and put back into bed, and I assured her husband that she would send for me again within twenty-four hours to have the operation done.

I was sent for the next day. The patient was then etherized, the uterine canal was dilated, the curette was passed, and three pieces of placenta were removed, each as large as the last phalanx of one's index-finger. Very little hæmorrhage was excited by the operation, and I felt that in removing the pieces of placenta I had removed the cause of the hæmorrhage.

The points I wish to make are these. The case was an interesting one: 1, with regard to the vaginismus; 2, with reference to the condition of the veins of the vulva; 3, with reference to the great danger of giving ether during a state of maniacal excitement; 4, with reference to what I believe to be the usual cause of delayed puerperal hæmorrhage, and the proper means for its cure.

With regard to the statement, so often made, that the placenta has been examined carefully and found entire, it usually amounts to nothing. In the first place, we know that the physician commonly looks at the after-birth hastily and in a careless manner. Besides, I believe that little pieces may be broken off and remain behind, which no man could recognize from an examination of the placenta, though he examined it with the utmost care. As in this case, so in all others of delayed puerperal hæmorrhage that I have met with, it has been due to retained placenta or membranes. Dr. M'Clintock mentioned a case in his practice which, I believe, proved fatal. I have met with some which very nearly proved fatal, and doubtless some of those present have encountered similar cases.—*N. Y. Medical Journal.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F. ..	equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz. " " ..	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " " ..	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F...		56 96-100ths grains.
1 fl. oz. " " ..		455 69-100ths "
1 fl. gallon " " ..		231 cubic inches.
1 fl. pint " " ..		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

WARBURG'S TINCTURE IN MIASMATIC FEVER.—For many years, in treating miasmatic fever which would not yield to quinia, I have been accustomed to prescribe Warburg's tincture. According to my experience, it is worth all other succedanea put together. About six years ago, a medical friend consulted me for intermittent fever, utterly rebellious to the power of the quinia salts. His health had suffered greatly, and he was obliged to temporarily give up his practice. I prescribed the tincture of Warburg in half-ounce doses, taken on an empty stomach, early in the morning. It was rapidly and completely successful in its effect. Several months ago he applied to me with a recurrence of his old trouble, saying: " But, Dr., don't give me Warburg. I think I'd almost as soon die as take it. Even when I look at the bottle containing it I become nauseated. It is an awful dose to swallow!" I begged him to go to his apothecary, have the tincture evaporated in a water-bath to such consistence as would allow it to be put into gelatine capsules, and to take the equivalent of a half fluid ounce thus prepared. It answered the desired end perfectly, without causing discomfort of any kind. Since then many patients have taken Warburg's capsules, with a like result. One of them contains the potency of two fluid drams of the tincture. With some persons, rather too active purgation follows the ordinary dose of two capsules. This can be easily regulated, by leaving out or diminishing the amount of aloes in the original formula. I have had excellent results, also, follow administration of the capsules made by evaporating the modified Warburg's tincture, in which the alkaloids of cinchona replace the sulphate of quinine. In cases of intermittent fever which are prone to recur, after having been once broken, I rely much more upon the daily dose of two capsules—taken early in the morning—than on any other remedy known to me. The evaporated mass becomes hard very soon, unless glycerine be mixed with it before filling the gelatine cups.—*Dr. Metcalfe in Medical Record.*

Coca and Cocaine in Exhaustion.—Dr. Hicks (*New York Medical Journal*) expresses surprise that coca is so seldom employed, and states that he has found it useful in backache, with high-colored urine, and excess of uric acid and urates; in short breathing from weakness of the muscles of respiration; in palpitation due to dilatation or weakness of the muscles of the heart; in the craving for alcohol, which it destroys; in headache resulting from overexertion; and in sick-headache, when given in small doses. Cocaine hydrochlorate has been tried with apparent success by Aschenbrandt (*Therapeutic Gazette*) in the treatment of exhaustion arising from sunstroke, loss of blood and diarrhœa. In all the cases, particularly in those of the last-mentioned disease, the results obtained were such as to render further trials of this alkaloid desirable. The dose used was from 5 to 20 drops of a 1 per cent. solution.

St. John Long's Liniment.—This old-time liniment is still in use at the Pennsylvania Hospital, in this city, for stiff and rheumatic joints, and in general for cases in which a local stimulant and rubefacient effect is desired. Mr. Jacob Hecker, Ph. G., the apothecary of the institution, uses the following formula:

℞	Vitelli ovi, no.	viij
	Olei terebinthinæ	f℥ xxiv;
	Acidi acetici	f℥ xvj;
	Aquæ	f℥ xxiv.

Mix. The directions for its preparation are as follows: To the yelks, in a gallon bottle, add a small quantity of the water, and shake briskly together; then add the turpentine in successive portions, shaking the mixture briskly after each addition; then add the acetic acid, and lastly the water, in the same manner. For private practice the liniment is greatly improved by the addition of one dram of good oil of lemon to each pint.—*Phil. Med. Times.*

The Vegetable Pepsin, Papain or papayotin is described at length by Prof. Rossbach (*Centralblatt f. Therapie*). It is obtained from the South American melon tree, *Cariea Papaya.* The wood, leaves and fruit yield a large quantity of milky juice which coagulates when exposed to the air separating into a fluid and semi-solid part. Alcohol precipitates the active digesting principle, the so-called papain. It has long been known on the plateau of Quito that the juice of the Corica tree when added to the meat in cooking will render this soft and tender. Wurtz has shown that one-thousandth part in weight of papain will dissolve most fibrin and change it to a peptone which cannot be precipitated by nitric acid. Rossbach has found: 1. That warm concentrated solutions of papayotin do not digest meat faster than cold solutions. 2. That fresh muscular fibre is changed by a five-per-cent. solution in half an hour into soft and easily-separable fibres. Mucous membrane is not affected in the least. 3. One-half per cent. solutions have a hardly appreciable action. Animals can take a dram and more without harm, the mucous membrane of the stomach remaining unchanged. Injected into the blood-vessels it is an acute poison, 1 gr. proving fatal in five minutes. Subcutaneously it produces a digestion of the neighboring tissues, and when not aseptic, an abscess. It has been recommended: *a.* In various skin eruptions. *b.* In cancer of the skin. *c.* To dissolve croupy and diphtheritic membranes. [Schæffer has recently published (*Berl. Klin. Wochensch.*) several cases of diphtheria treated by brushing the diphtheritic membrane every ten minutes with very good results.] *d.* To aid digestion of meats in dyspepsia and other diseases of the alimentary canal.

Aromatic Tincture of Rhubarb.—Buntin (*Druggist*, June, 1884) recommends the following formula, which furnishes a bright, rich tincture, and when combined with syrup affords a permanent, clear, and handsome aromatic syrup of rhubarb, that cannot be obtained from the officinal tincture:

Rhubarb, No. 40	20	parts.
Cinnamon, No. 40	4	"
Cloves	4	"
Nutmeg	2	"
Alcohol	60	"
Glycerin	15	"
Water	25	"
Dilute alcohol.		

Mix the powders, add the alcohol, glycerin and water, previously mixed. Macerate for forty-eight hours, occasionally shaking the container. Then transfer to a cylindrical percolator, and after all the liquor has passed, add sufficient dilute alcohol to bring the measure to 100 parts. Unlike the officinal formula this will not deposit a precipitate.

Acid of the Gastric Juice.—The acid of gastric juice is said by M. Poulet (*Jour. de Méd. de Paris*) to be neither lactic nor hydrochloric acid, but hippuric acid in the form of acid hippurate of potassium combined with neutral phosphates of lime and sodium. He claims that microscopic examination of the crystals and experiments with dialysis demonstrate this conclusively.—*New Eng. Med. Monthly.*

A Liniment for Rheumatism.—The *Quarterly Therapeutic Review* says methyl salicylate (oil of wintergreen), mixed with an equal quantity of olive-oil or linimentum saponis, applied externally to inflamed joints affected by acute rheumatism affords instant relief, and, having a pleasant odor, its use is very agreeable.

Sophistication of Mullein Leaves.—Dr. Quinlan (*British Medical Journal*, April 5, 1884) now recommends the mullein (*Verbascum Thapsus*) to be smoked as a remedy for cough. In a case which he has recently recorded considerable relief was afforded by its use in this way. A sample of the plant (*Pharmaceutical Journal and Transactions*, May, 1884) was lately found to contain belladonna leaves, as well as other leaves which were not those of *Verbascum Thapsus.* It is desirable, therefore, before the entire credit be given to mullein, that experiments be made with carefully-selected specimens of the plant.

Balsam of Peru.—The *Pharmaceutical Journal and Transactions* says that when balsam of Peru arrives at Acajutla and La Libertad, the ports on the "balsam coast" from which it is chiefly shipped, it is in a crude state, usually of a grey-green to a dirty yellow color, and requires to be submitted to a process of purification before it is fit for exportation. Concerning this process a correspondent states that a first clarification is effected by allowing the crude balsam to stand in a large iron vessel, capable of holding six or seven hundred pounds during a week or a fortnight, by which time the heavier impurities sink to the bottom and the lighter ones float as a scum on the surface. The clear balsam, which has already attained its characteristic black-brown color, is then drawn off through a tap fixed about four inches from the bottom of the vessel and run into a tinned iron boiler set over an open fire, and boiled moderately for two or three hours. All scum is removed as it makes its appearance, and the boiling is continued as long as any continues to be formed. It can easily be understood that the physical properties of the balsam will differ according to the temperature to which it is submitted during this boiling, and it is alleged that the lower specific gravity observed in balsam of Peru during recent years is attributable to a modification it undergoes in this operation, and is quite consistent with the genuineness of a given sample.

Ransom's Hive Syrup and Tolu has the following composition (*Stearn's New Idea*):

℞	Fluid extract squills	2 fluid drams.
	Fluid extract senega	2 " "
	Soluble essence tolu	2 " "
	Tartar emetic	4 grains.
	White sugar	4 oz. av.
	Water to make	4 fluid ounces.

It is readily prepared by rubbing the tartar emetic and sugar well together, adding the fluid extracts and essence of tolu, and then enough water to make, after short slight heating and straining, 4 fluid ounces. Each fluid ounce of the syrup contains 1 grain of tartar emetic.

Oil of Hypericum in Bed Sores.—The *Pharmaceutical Journal and Transactions* says that the value of oil of hypericum for bedsores, as recommended by Dr. H. S. Snow, receives further confirmation from Dr. F. Clark, who has used it with manifest advantage in severe cases. He adds that the oil requires exposure to the sun for three months to acquire the reddish-brown tint. The name of the species of *Hypericum* from which the oil is derived is given in the *British Medical Journal* (January 5, 1884) as "*Hypericum medium perforatum* which flowers in July." The name, however, will not be found in any work on British botany. *Hypericum perforatum* is a well-known plant, but why the word "*medium*" is used it is difficult to understand, as there is no variety of that name mentioned either in English botany or in DeCandolle's "Prodromus." The remarks in Sowerby's "English Botany," ii., p. 146, indicates that *H. perforatum* is probably the plant intended, since it is stated under that species, "In country districts it is sometimes still used as a medicine, and oil in which the shoots or flowering tops have been steeped is sold by herbalists as oleum hyperiæ." Gerarde says of it, "A balsam prepared from it is a most precious remedie for deep wounds and those that are thoro the body, for the sinues that are prikt or any wound made with a venomed weapon." Dioscoridus says: "The seed drunke for the space of forty daies together cureth the sciatica and all aches that happen in the hips." The writer has known an ulcerated leg to be healed simply by the application of the bruised leaves of a shrubby garden species of *Hypericum.* Doubtless the properties of the plants of the genus are worth investigating, and may possibly, like the now disused willow bark and meadowsweet, be found to contain a substance as useful in other ways as the salicin contained in those two plants.

Male Fern and Kousso for Tapeworm.—The favorite and very efficient prescription (*Druggist*) of Dr. A. B. Palmer, of Michigan University, is as follows:

℞.	Eth. ex. male fern	½ ounce
	Powdered kousso	2 drams.
	Confection senna q. s. to make	boli 3

Patients to abstain from food for twelve hours, then to take one pill every hour, followed by a dose of castor oil.

Paraldehyd.—The *Pharmaceutical Journal* says that the disagreeable taste and persistence of the odor in the breath which appear to be serious inconveniences attending the administration of paraldehyd, are calling forth the ingenuity of German dispensers. Sutter (*Pharm. Zeit.*, April 9, 1884) says that he finds rum to be the most advantageous corrigent for masking the taste, and he gives the following formula, which he says yields a mixture resembling cold punch: ℞. Paraldehyd, 100; jamaica rum, 150–200; tinct. cort. citri vel aurantii rec., 10; syr. simp., 300; aquæ, 1390–1440; dose, 100 grams. For the administration of paraldehyd as a clyster, he recommends a mixture in the proportion of one part of paraldehyd to two parts of olive oil. Hellwig speaks favorably of two mixtures (*a*) paraldehyd, 3; ol. oliv., 15; ol. menth. pip. gtt., 3; and (*b*) paraldehyd, 3; spiritus, 6; syr. simp., 8; and tinct. vanill., 2. But he prefers an emulsion of paraldehyd, 3; mucil. gum. acac. and syr. cort. aurant. āā 8, with with the addition of two or three drops of ol. menth. pip.

Eau de Quinine in Alopecia.—The following mixture, called *eau de quinine*, has been found (*Répertoire de Pharmacie*) to be of value in the treatment of alopecia:

℞. Hydrochlorate quinine	225 grains.
Tartaric acid	195 "
Tr. cantharides	3 fluid ounces.
Orange flower water	12 "
Glycerine	12 "
Distilled water	4½ "
Alcohol	46 "
Oil of cloves	6 drops.
" neroli	6 "
" rose	6 "
" bergamot	30 "
Citron oil	10 "
Oil of orange peel	10 "
" cinnamon	2 "
Musk	60 grains.
Cochineal	q. s. to color.

M. *Secundum artem.*

Camphor-chloral, according to L. Ebel (*Druggist*), may readily be prepared without waste if the camphor and chloral first be powdered separately, and, after putting in the vial and mixing, the same may be gently heated, when liquefaction readily takes place.

Pill Excipient.—J. K. Lilly (*Druggist*, June, 1884) states that the best excipient has proven to be glucose and powdered althea. The latter acts as an absorbent of the oil (a very small quantity is necessary) to protect the mass from the excess of oil, and the former serves perfectly as an adhesive agent. The advantages of glucose as an excipient are manifold. In this case it serves to keep the mass soft for an indefinite period, thus guarding against the pill becoming hard and porous, which occurrence would allow the evaporation of a large percentage of the oil. The glucose as part of an excipient should, of course, be a prime article, perfectly pure and neutral. In the presence of salts that are readily reduced its use is questionable.

Koussin.—Dr. Rosa M. Upson (*Druggist*, June, 1884) says that kousso, as found in the market, is the product of the flowers and unripe fruit of *Brayera anthelmintica*, of Abyssinia, the female inflorescence being most frequently collected. It should have a pale brownish-red hue, and is often distinguished as red kousso. It is collected before the fruit is ripened, and dried loosely or formed into rolls varying in length and thickness. Kousso contains 6.25 per cent. of a bitter, acrid resin, and 24.4 per cent. of tannin, besides several common constituents. The acrid resin, which appears to be the active principle, has been variously called brayerin, koosein koussin, and kosin. Koussin has been found a very efficient tanifuge. Kousso is repeatedly treated with alcohol to which slaked lime has been added, the residue boiled with water, the different liquids mixed, filtered and distilled, and the remaining liquid treated with acetic acid, which separates about 3 per cent. of koussin as a white flocculent precipitate, becoming denser and resin-like, and on drying yellowish or brown; has a peculiar odor, bitter and acrid taste, and, under the microscope, a crystalline appearance. It has been still further purified by crystallizing it from boiling alcohol, but is then inferior in anthelmintic action. Koussin is readily soluble in benzol, carbon bisulphide, chloroform, ether, alkalies and alcohol, but insoluble in water. Authorities all agree that koussin is the active principle, and that it is a perfect and direct poison to intestinal worms, especially tapeworms. Usually the only observable effect is occasional nausea from the taste, and sometimes slight diarrhœa. Kousso as usually administered is in the form of powder mixed with water and drank, sediment and all, or mixed with other ingredients to make a paste which is eaten, or is formed into a bolus. She has not had any results from koussin but from fluid extract. Kousso in two-ounce doses has had good results.

Percentage of Quinine in Its Salts.—Sauret (*Bulletin Génèrale de Thèrapeutique*) gives the following percentages :

Acetate	87.34
Hydrate (quinine precipitated and dried)	85.70
Basic chlorhydrate	81.60
Lactate	78.26
Basic bromhydrate	76.60
Valerianate	76.05
Basic sulphate (the ordinary sulphate)	74.30
Sulpho-vinate	72.00
Neutral bromhydrate	60.00
“ sulphate, or acid sulphate	57.24
Tannate	20.60

Sodium Benzoate in Summer Diarrhœa.—Dr. Guaita (*Gazzeti degli Ospitali*) concludes that the summer diarrhœa of children is a zymotic disease, caused by a special germ introduced from without, or developed in the alimentary canal during digestion. Deficient diet, bad hygiene, excessive heat, are predisposing causes. On this theory he has employed sodium benzoate, which has already been used with advantage by Kapuscinsky and Zilewicz in the vomiting and diarrhœa of children. Dr. Guaita used sodium benzoate alone in 53 cases of this disease in children varying in age from six months to two years. In 35 cases the affection was twenty-four to thirty hours old; in 18 from six to fourteen days. In the first class of cases perfect relief always resulted in from four to eight days; in the second about twenty-one days, without a single death in either. After giving a purgative (calomel or jalap), he gave from four to six grams of the sodium benzoate in 100 grams of water during the twenty-four hours, and continued its use for two days. The third day he gave a slight purgative (magnesia, manna), followed by benzoate. At the end of two days improvement in the character of the stools was noticeable, and the vomiting was checked. During treatment the child is strictly dieted, only taking a little lemonade and good wine. Milk and soup are absolutely forbidden as, in his opinion, milk, particularly that of the cow, ferments readily in the stomach, and increases the trouble. Children are allowed to nurse four times in twenty-four hours.

Jackson's Pectoral Syrup, according to J. U. Lloyd (*Druggist*, June, 1884), consists of:

Fluid extract ipecac	½ fluid dram.
“ senega	3 “
“ rhubarb	4 “
Sulph. morphine	8 grains.
Oil sassafras	32 drops.

Simple syrup sufficient to make two pints.
Mix thoroughly.

Suggestion for Chloroform and Ether Administration.—To overcome a repugnance to the odor of chloroform in certain patients, Prof. Nussbaum, of Munich, has a few drops of oil of cloves placed on the towel before giving the anæsthetic. The addition of one part to six of cologne to ether makes it much more easy of administration in some cases.

Development of Apomorphine in Old Morphine Solutions.—Dr. C. E. Jennings, in the *Lancet*, calls attention to the importance of preparing extemporaneously solutions of the alkaloids for hypodermic medication. He shows that in addition to the loss of morphine in the solution from the development of the penicillium, there is also a certain amount of apomorphine formed. This may account for the violent vomiting sometimes following hypodermic injection of morphine. Since the syringe is so liable to get out of order from want of use, he recommends the substitution of a small graduated pipette, which operates without a piston, the fluid being discharged by blowing into the pipette through a rubber tube.

Macallo Bark and Macalline.—A curious instance of the influence of fashion in therapeutics, and of the fact that many physicians know but little of the drugs they use, was narrated by Dr. Maisch, (*American Journal of Pharmacy*) he says: “A bark was brought from Central America which possessed valuable antiperiodic properties. There was no doubt of its possessing these. It was called *Macallo* bark. In the investigation of this bark a proximate principle was obtained in white crystals. In the hands of several physicians it proved to be a very active anti-periodic. I corresponded with the gentleman, and said that I thought it was but calcium sulphate. He sent some samples, but I wouldn't trust to my experiments alone, and handed some to Prof. Sadtler and to Prof. Power, and they agreed with me that it was nothing but calcium sulphate. Of course after that the stuff didn't possess any wonderful properties at all.”

Oleate of Quinia.—Dr. Squibb, in his *Ephemeris*, considers that oleate of quinia, although it has not attracted general attention, is probably one of the most important of the oleates. From the larger quantity of quinia needed in medicine, this oleate is made as strong as possible. While a normal oleate would by calculation contain about 53 per cent. of the alkaloid, it has been found impracticable to dissolve that quantity in the acid. In a series of experiments made some years ago when this oleate was introduced, it was concluded that 25 per cent. was the best proportion. But as the quinia of the market holds some hygrometric moisture, it is better to take 26 grains of the alkaloid and 74 grains of oleic acid as the formula. The alkaloid is simply rubbed to powder, and added to the acid in a bottle. Like the other alkaloids, this dissolves so readily that, being in much larger proportion, it is liable to clog together and be slow in dissolving. But this clogging together is easily broken up by means of a glass rod, or the solution may be effected in a capsule, and the clogging be prevented by a pestle. In this way it is easily made in a few minutes. A fluid ounce of this oleate weighs about 410 grains, and therefore contains about 102 grains of quinia, which is equivalent to about 140 grains of the ordinary sulphate of quinia; therefore, a fluid drachm contains the equivalent of about 17 grains of the sulphate, and a minim is equivalent to a little more than a quarter of a grain. A hypodermic injection of a fluid drachm will, therefore, carry the equivalent of 17 to 18 grains of sulphate of quinia. The epidermic use, however, is of late not uncommon, and, since it was first proposed, trustworthy testimony from private sources has led the writer to consider it an important adjunct to the more common methods of using quinia. The quantity of oleate needed here is considerable, often amounting to one or two fluid drachms. Hence, it should always be applied under oiled silk or guttapercha tissue. When put directly on the skin, a minim will require about four square inches of surface or it will run, and a fluid drachm would require about two square feet of surface, an area hardly accessible under ordinary circumstances. But two pieces of very thin fine old muslin or linen, six by nine inches, will easily hold half a fluid drachm each, and may be applied to the inside of the thighs, covered by oiled silk. This leaves the abdomen available for another similar application if desirable, and the oleate can be renewed on these places as rapidly as it is absorbed.

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Picrotoxin in the Treatment of Night-Sweats of Phthisis.—Too frequently in the treatment of phthisis the physician's best efforts must be confined to alleviating the symptoms, and, with the prospect of inevitable death before him, hope only to secure tolerance of existence on the part of the patient, and euthanasia. Among the more distressing symptoms or complications which may demand attention are the night-sweats. For the relief of these a great variety of remedies has been from time to time suggested. Drs. Westbrook and Platt, physicians to the Department of Diseases of the Chest in St. Mary's General Hospital, of Brooklyn, New York, contribute to the *New York Medical Journal* the results of their experience with several of the more recent drugs in the many cases in which they were furnished an opportunity for carefully trying them. The drug which they used in the greatest number of cases was picrotoxin. The result of its use in nine cases was to entirely check the sweats in six cases and to relieve them greatly in two. In one very troublesome case it seemed to have no effect whatever. Their method of administering it was either hypodermically or by the mouth at intervals of two to ten days, and in doses of from 1-60 to the 1-20 of a grain. It was found in some cases that 1-20 of a grain hypodermically, at night, would control the sweats for ten nights following. These results are corroborative of a favorable report made by Dr. Murrell, of London, who had but one failure in twenty cases, and found the effect to run about ten days. Dr. Murrell, however, accomplished his results with much smaller doses, giving from the 1-180 to the 1-60 of a grain only. Atropine was also employed in a number of cases, but although it was tolerably successful as regards the sweats, it was objectionable owing to the annoying dryness of the throat which followed its use.

REVIEWS.

The Treatment of Diabetes Mellitus. By Austin Flint, Jr., M.D. 1884.

This is an interesting brochure. The best views of the subject, in its various departments are carefully analyzed and tersely presented; and the diet-table is arranged with more than usual care and prodigality. In regard to "the detection of sugar in the urine," the matter presented is so interesting that it is here given without abbreviation:

"*Detection of Sugar in the Urine.*—As far as purely clinical examination of the urine is concerned, the great desideratum is a simple test, easy and rapid in its application, upon which one can rely with absolute confidence. I shall pass over, without discussion or even mention, the different tests employed for the detection of sugar, except the one known as Fehling's. When the Fehling's liquid is properly prepared and carefully used, there can be no error in the results. If a quantity of this test, however, be made and kept for some time it is liable to change so as to become more or less unreliable. This want of stability in the test-liquid has long been recognized by those accustomed to urinary examinations; and a few years ago I prepared three separate liquids, which I mix in certain proportions for use as required. Even this did not prove to be entirely satisfactory. Within the last year, two separate liquids have been prepared by Dr. E. R. Squibb, and are kept by him for sale, in which form the test seems to leave nothing to be desired in the qualities of accuracy and ease of application. The test, as it is now prepared by Dr. Squibb, is simply perfect; but so much depends upon its proper use that I shall venture to detain the "section" with an account of its application and the necessary precautions to be adopted. These precautions are simple and demand no special skill; but they often become very important, especially in determining with certainty the absence of sugar.

"The two test-liquids are prepared by Dr. Squibb according to the following formulæ:

"*For the Solution of Cupric Sulphate.*—Use purified sulphate of copper, in granular crystals, air-dried. Weigh 277 grains (17.32 grammes) of the salt and dissolve it it about 4 fluid ounces (120 C.C.) of distilled water, adding about 4 minims (¼ C.C.) of pure sulphuric acid. Add distilled water to this solution to make 8½ fluid ounces (260 C.C.).

"*For the Solution of Alkaline Tartrates.*—Weigh 2 ounces, 391 grains (87.5 grammes) of re-crystalized sodio-potassic tartrate, or Rochelle salt, and dissolve it in about 6 fluid ounces (175 C.C.) of distilled water. Filter the solution, if necessary, and add to it a clear solution of 386 grains (25 grammes) of caustic soda in about 1¾ fluid ounces (50 C.C.) of distilled water. Add distilled water to this solution to make 8½ fluid ounces (260 C.C.).

"These two solutions are to be kept in separate bottles for use. If they be made with accuracy, and mixed together in equal proportions, 200 grains of the mixture will be decolorized by exactly one grain of sugar, or each cubic centimetre of the mixture will be decolorized by 0.005 of a gramme of sugar. The liquids can therefore be employed for quantitative estimates, although I shall describe the use of the test simply for determining the fact of the presence or absence of sugar. For use in qualitative analyses, the two liquids may be roughly mixed in about equal proportions in a test-tube, or they may be measured accurately and diluted with about an equal volume of distilled water. The latter process should be resorted to in all delicate analyses.

"For ordinary use the following process may be employed: Mix in a test-tube equal volumes of the two liquids so that the mixture will extend in the tube to the length of about an inch. Bring the mixture to the boiling point and then add to the boiling test a quantity of urine equal to that of the test. Bring the mixture of the test-liquid and urine to the boiling point, and then allow it to cool. If no distinct and opaque reddish or yellowish precipitate be present when the mixture of test and urine has become cool after the second boiling, it is absolutely certain that no sugar is present. All these precautions are essential; and I have repeatedly examined specimens of urine in which the characteristic precipitate due to the presence of sugar did not occur until one or two minutes had elapsed after the second boiling.

"In every delicate testing, take a definite quantity of the copper-solution, add an equal quantity of distilled water, add then of the solution of alkaline tartrates a quantity equal to the quantity of copper-solution, and add finally distilled water in the same quantity. When this mixture is boiled, if the test be not absolutely perfect, there will be a precipitate before the urine is added. The mixture, if perfect, may be used in the same way as the simple undiluted mixture of the two solutions. When sugar is present in the urine, an opaque yellowish or reddish precipitate appears at some time during the process, the promptness of its appearance and its quantity being in direct proportion to the quantity of sugar. It is often important to be able to determine, at least approximatively, the quantity of sugar discharged in twenty-four hours or its proportion per fluid ounce. Using the volumetric process, this estimate requires some practice and occupies from twenty to thirty minutes; but the "differential density method" recommended by Roberts is very simple, and is sufficiently accurate for ordinary purposes. With a little practice, indeed, it may be employed by intelligent patients. Two specimens of diabetic urine are taken, about four ounces of each, one for comparison and the other for analysis. To one is added a lump of German yeast, about the size of a filbert, in a bottle with a cork nicked to allow the escape of gas; and the other specimen is placed in a similar bottle tightly corked. The bottles are then put aside in a warm place, as the mantle-piece in winter or in the sun in summer. In the course of twenty-four hours fermentation will have been completed in the specimen to which yeast has been added. If the specific gravity of the two specimens be then compared, the fermented specimen will be found much the lighter, from loss of the sugar which has been decomposed into alcohol and carbonic acid. The difference in the density of the two specimens, expressed in degrees of the urinometer, will represent the number of grains of sugar per fluid ounce in the urine. For example, if the specific gravity of the fermented specimen be 1,010, and the specific gravity of the unfermented specimen 1,040, the urine contains thirty grains of sugar per fluid ounce. In this process it is essential to compare the density of the two specimens at the same temperature. If German yeast cannot be obtained readily, about a teaspoonful of ordinary baker's or brewer's yeast may be used.

"*Relations of the Specific Gravity of Urine to the Proportion of Sugar.*—It has long been recognized that the specific gravity of the urine bears no definite and constant relation to the proportion of sugar in cases of diabetes. In a case that came under my observation in December, 1883, and has been under treatment until the time of writing (April, 1884), on December 29, 1883, the specific gravity was 1,038, with 28.4 grains of sugar per fluid ounce. The next day the specific gravity was 1,036 and the proportion of sugar was nine grains per fluid ounce. In another very interesting case now under treatment, I found four grains of sugar per fluid ounce, the urine having a specific gravity of only 1,011½. These remarkable variations in the specific gravity, occurring without any relation to the quantity of sugar, are generally dependent upon the proportion of urea, the absolute quantity of which is often very largely increased in cases of diabetes. I have often found crystals of uric acid as a persistent condition in diabetic urine, sometimes associated with a deposit of oxalate of lime. The time allotted to me does not admit of a discussion of the possible relations of the nutritive conditions connected with diabetes to the excessive elimination of urea or the frequent presence of crystals of uric acid; but it is very important to remember that urine of a comparatively low specific gravity may contain sugar. Within a week, in another case in which the urine was examined every three or four days, I found a marked sugar-reaction in a specimen of urine with a specific gravity of 1,010. I have also repeatedly found sugar in urine of a specific gravity of about 1,020, the quantity of urine in twenty-four hours being normal. The fact, then, that the quantity and specific gravity of the urine are normal does not in itself exclude sugar; although, in most cases of diabetes, the quantity of urine is increased and its specific gravity is notably high. In a case of diabetes, very elaborately reported by Pavy, sugar was found in the urine when the specific gravity of the specimens was, on different occasions, 1,010, 1,011, 1,012 and 1,013.* In cases in which diabetes is suspected, the physician is not justified in excluding the disease when he finds no increase in the quantity of urine and a normal specific gravity; and the facts just mentioned show that, in all cases of this kind, the urine should be carefully tested for sugar."

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* Pavy, "Nature and Treatment of Diabetes," London, 1869, p. 288, *et req.*

The diet-table is republished complete, because it is unusually full and useful. The author says:

"The diet-table which follows is adapted to those who are able to provide themselves with any kind of food required without regard to cost rather than to persons of restricted pecuniary resources; but I have recognized the fact that those who are subjected to the anti-diabetic diet should secure every possible variety of food. In making this table I have drawn largely from those already published, particularly the list of permissible articles given by Bouchardat, but, after many trials of the so-called anti-diabetic flours and bread, I have come to the conclusion, as I have already stated, that they are nearly all unreliable. I prefer to make patients abstain entirely from bread, or I allow the crust of half a French roll two or three times daily if I cannot eliminate bread altogether from the diet. The gluten-breads, so-called, are not only unreliable, but they soon become very distasteful. When ordinary bread is allowed, the physician knows, at least, about how much starch is taken:

"BREAKFAST.—Oysters stewed, without milk or flour; clams stewed, without milk or flour. Beefsteak, beefsteak with fried onions, broiled chicken, mutton or lamb chops, kidneys, broiled, stewed or deviled; tripe, pig's feet, game, ham, bacon, deviled turkey or chicken, sausage, corned-beef hash without potato, minced beef, turkey, chicken or game, with poached eggs. All kinds of fish, fish-roe, fish-balls, without potato. Eggs cooked in any way except with flour or sugar, scrambled eggs with chipped smoked beef, picked salt cod-fish with eggs, omelets plain or with ham, with smoked beef, kidneys, asparagus-points, fine herbs, parsley, truffles, or mushrooms. Radishes, cucumbers, water-cresses, butter, pot-cheese. Tea or coffee, with a little cream and no sugar. (Glycerine may be used instead of sugar if desired.) Light red wine for those who are in the habit of taking wine at breakfast.

"LUNCH OR TEA.—Oysters or clams cooked in any way except with flour and milk; chicken, lobster, or any kind of salad except potato; fish of all kinds; chops, steaks, ham, tongue, eggs, crabs, or any kind of meat; head-cheese. Red wine, dry sherry or Bass's ale.

"DINNER.—Raw oysters, raw clams.

"*Soups.—Consommé* of beef, of veal, of chicken, or of turtle, *consommé* with asparagus-points, *consommé* with okra, ox-tail, turtle, terrapin, oyster or clam, without flour or milk; chowder, without milk or potatoes, mock turtle, mullagatawny, tomato, gumbo *filet*.

"*Fish, etc.*—All kinds of fish, lobsters, oysters, clams, terrapin, shrimps, crawfish, hard-shell crabs, soft-shell crabs. (No sauces containing flour or milk.)

"*Relishes.*—Pickles, radishes, celery, sardines, anchovies, olives.

"*Meats.*—All kinds of meat cooked in any way except with flour, all kinds of poultry without dressings containing bread or flour, calf's head, kidneys, sweet-breads, lamb-fries, ham, tongue, all kinds of game; veal, fowl, sweet-breads, etc., with currie but not thickened with flour. (*No liver.*)

" *Vegetables.*—Truffles, lettuce, romaine, chiccory, endive, cucumbers, spinach, sorrel, beet-tops, cauliflower, cabbage, Brussels-sprouts, dandelions, tomatoes, radishes, oyster-plant, celery, onions, string-beans, water-cresses, asparagus, *artichauts*, Jerusualem artichokes, parsley, mushrooms, all kinds of herbs.

"*Substitutes for Sweets.*—Peaches preserved in brandy without sugar. wine-jelly without sugar, *gelée au kirsch* without sugar, *omelette au rhum* without sugar, *omelette à la vanille* without sugar, *gelée au rhum* without sugar, *gelée au café* without sugar.

"*Miscellaneous.*—Butter, cheese of all kinds, eggs cooked in all ways except with flour or sugar, sauces without sugar, milk, or flour. Almonds, hazel-nuts, walnuts, cocoanuts. Tea or coffee with a little cream and without sugar. (Glycerine may be used instead of sugar if desired.) Moderately palatable ice-creams and wine-jellies may be made sweetened with pure glycerine; but although these may be quite satisfactory for a time they soon become distasteful.

"*Alcoholic Beverages.*—Claret, burgundy, dry sherry, Bass's ale or bitter beer. (No sweet wines.)

"PROHIBITED.—Ordinary bread, cake, etc., made with flour, sugar, desserts made with flour or sugar, vegetables, except those mentioned above, sweet fruits."

The author believes that in recent and uncomplicated cases the prognosis is invariably favorable. His paper was read at the last meeting of the American Medical Association, and was much appreciated.

THE MEDICAL GRADUATE AND HIS NEEDS. By GEORGE C. WELLNER, M.D. Detroit, Michigan: George S. Davis. 1884.

This brochure of 100 small octavo pages has just been issued. When one examines cursorily its orthography and diction, he wonders why a judicious publisher should have given such a book to the Public; but when it is carefully read, the publisher's reason for his course is very evident. It is a most excellent work, though presented in the most inexcusable language.

The spelling is bad, the diction worse, the style heterodox, the method unintelligible; and yet, with all of these disadvantages, the book is a valuable one. It gives information that is useful, reliable and not to be obtained elsewhere.

The author has been well trained in this country and equally well trained abroad. He gives valuable information accurately and in detail, and, after reading his book carefully, every one will be able to decide how and where best to expend post-graduate periods of rest from practice, in practical studies in America or Europe. All, for themselves or their friends, need such a guide, and this one is very accurate and reliable. It is very much to be regretted that some one did not revise the manuscript, and correct the many blemishes indicated.

BRAIN EXHAUSTION, WITH SOME PRELIMINARY CONSIDERATIONS ON CEREBRAL DYNAMICS. By J. LEONARD CORNING, M.D., formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, etc. New York: D. Appleton & Co. 1884. Pp. 234.

This work is well prepared and well issued. The title is somewhat sensational, but the subject is treated systematically and scientifically. Brain exhaustion seems to be increasing, not only in this country but in Europe.

Official action has been recently taken on this subject in Prussia, Saxony, Wurtemburg, Baden, Hesse and Alsace-Lorraine. The reports show the dire effects of brain pressure, and the schools have been required to reduce the number of study hours both at school and at home. It is one of the effects of an overactive civilization. The brain gives way, and cases of brain exhaustion are rapidly becoming more frequent and severe.

The author has presented his subject and sub-subjects very well indeed, and has made a most creditable volume. The publishers have, as usual, done their duty well.

OPERA MINORA: A COLLECTION OF ESSAYS, LECTURES AND ADDRESSES FROM 1866 TO 1882, INCLUSIVE. By EDWARD C. SEGUIN, M.D., Clinical Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons, New York, etc. New York: G. P. Putnam's Sons. 1884. 4to muslin. Pp. 687.

This work is prepared with great care, and is really very valuable. It may justly be termed one of the medical classics, and can be read with profit by all. It is a series of papers based upon careful and thorough clinical study. The portion of the book devoted to diseases of the nervous system is particularly valuable. The pathological portions of the work are bad and inaccurate, and the therapeutical departments show that the author still adopts views that are obsolete and untenable. The publishers have issued the volume very handsomely.

SEXUAL NEURASTHENIA: THE HYGIENE, CAUSES, SYMPTOMS AND TREATMENT, WITH A CHAPTER ON DIET FOR THE NERVOUS. By GEORGE M. BEARD, A.M., M.D. New York: E. B. Treat. 1884.

This is a posthumous work, edited and issued by Dr. A. D. Rockwell, who was for some time associated with the author. It is badly edited, inasmuch as it contains material which a judicious editor would have withheld as unworthy of publication, and unworthy of the author. The book cannot add anything whatever to either the author's notoriety or reputation.

He was, as all know, an enthusiast in regard to neurasthenia, and wrote very much about the subject that should never have been written; much that was untenable, vague and chimerical. The author's claim to originality in the use of the term neurasthenia was particularly comical and astonishing. His claims of originality, as to symptoms described, and prognosis and treatment, were equally invalid and untenable.

It were better for his former associate, the author, and for his friends that this book had never been published. It contains nothing that is not well known to the profession, and much that is comical, extravagant and untrue. The editor, Dr. Rockwell, says the book is published from a "posthumous manuscript." What is that?

THE THEORY AND PRACTICE OF MEDICINE. By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P. Fifth American Edition. 1884. P. Blakiston, Son & Co., Publishers.

This is the latest edition of this favorite "Practice:" a favorite with teachers, practitioners and students. It is a thoroughly practical work, methodically arranged and with a method very generally acceptable.

In most instances a chapter is devoted to each disease or affection, and the method of examination is systematic and thorough.

New views are, very generally, noticed briefly and frankly; being, however, as a rule, mere theories or doctrines not yet supported by facts, they are not allowed to usurp much of the legitimate space of the work. New instruments are similarly treated.

It is observable that the author holds the same safe views in regard to pneumonia that are advocated by the Collective Investigation Committee of the British Medical Association, in its analysis of 350 cases, viz.: that the evidence presented is insufficient to support the doctrine that pneumonia is a specific fever, whose chief manifestation is the lung. This pernicious doctrine is, it is hoped, to be abandoned; it is unsafe, mischievous, unwarrantable, and prone to error and danger in its results.

As to the tubercle bacillus, the author is properly careful and guarded in the expression of a definite opinion. He thinks that the tuberculosis may be developed by an infection, within and without, but that the evidence, so far in, is not sufficient to warrant a verdict on the questions at issue.

He is equally guarded in regard to cholera infection, and the views advocated by Koch and his satellites. In view of the fact that, in the report recently made to the French Academy by the co-workers of Koch at Marseilles and Toulon, it is stated that while the cholera bacillus was repeatedly seen in cholera cases, it was often not to be seen in fatal and in malignant cases, one cannot but regard the author of this Practice as commendably conservative and cautious in connection with this interesting and important question. His views, indeed, in regard to pneumonia, and tuberculosis, and cholera may be accepted as fair indices of his care, wisdom and caution, while, at the same time, they prove that he is thoroughly awake to all of the great questions debated in the modern medical arena.

In the routine departments of "Practice," Roberts has no superior and few equals. He is a masterly writer and judicious teacher. The work is most fully and unreservedly commended. It is well issued.

CRIMINAL RESPONSIBILITY OF THE INSANE. By ORPHEUS EVERTS, M.D. College Hill, Ohio.

THIS is a well-written and useful pamphlet; in which the author demonstrates the growing folly of holding the insane as irresponsible for crime. He says that "all of the insane who commit crimes with knowledge and purpose cannot be exempted from the operation of the law." The tendency of the so-called experts is to discover paresis, developed, or incipient, or threatened, in all of the accused, and to claim that they are (as such) irresponsible.

The simple truth is that if any one, an inmate of an asylum or not, commits a crime, and does so with a knowledge of the crime and a purpose to perpetrate it, he ought to be as severely punished, even with death, as would be any one perfectly sane and in entire health. So think a number of those who have charge of the insane, who are experts in their judgment of them, and who are men of position and character in their profession. The views of Dr. Everts are well sustained.

MEDICAL GERMAN. A Manual Designed to Aid Physicians in their Intercourse with German Patients, and in Reading Medical Works and Publications in the German Language. By SOLOMON DEUTSCH, A.M., Ph.D. New York: J. H. Vail & Co. 1884. 12mo., pp. 346. Cloth, $2.25.

VERY many physicians are unable to translate the simple German words used in medical journals and contemporaneous literature, and, while not prepared to "study German," wish to know at least enough of it to be enabled to comprehend the meaning of the most familiar phrases. It is for such persons that this book is intended. It is a most useful addition to any physician's library. It is well issued, and its cost is very small. It is recommended with confidence to the readers of this JOURNAL.

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AT the late annual meeting of the Royal Society of New South Wales, the Clarke Medal for the year 1884 was awarded to Dr. Alfred R. C. Selwyn, in recognition of his scientific labors in Great Britain and as Director of the Geological Surveys of Canada and of Victoria.

MISCELLANEOUS.

THE GREELY SURVIVORS: THEIR PHYSICAL CONDITION WHEN RESCUED. SURGEON GREEN'S REPORT OF THE RECOVERY OF LIEUT. GREELY AFTER BEING TRANSFERRED TO THE THETIS.

The official report of Edward H. Green, M.D., surgeon of the steamship Thetis, of the Greely relief squadron, on the condition of the survivors of the Greely party when found at their camp on Smith's Sound, and their subsequent treatment, is published in a September issue of the *Philadelphia Medical News.* As a preliminary to the medical history of the cases of the wretched survivors of the expedition, Dr. Green gives a résumé of their mode of life at Camp Clay, in order that the reader may better appreciate the condition in which they were found. Much of the facts given are contained in GAILLARD'S MEDICAL JOURNAL for August, and are, therefore, omitted.

On September 29, 1883, the party landed at Baird Inlet, and all were reported as well. On October 25 they moved to a point between high ridges of mountains which screened them from the northerly and southerly winds, and established a winter camp. The house which they constructed was 25 by 17 feet, and 4 feet in height, making a cubic air space of only 1,700 feet—a cubic air allowance of about 70 feet for each of the 25 men. It was in this hut, in which all could barely squeeze at one time, that the explorers were overcome with asphyxia, and nearly lost their lives on March 24, 1884. The after-effects of this mishap remained a long time and greatly weakened many of the party. The water supply was obtained from an artificial lake 200 yards to the south of the hut, by melting ice, which gave brackish water all the time. For nine months the party had no artificial warmth and lived in a temperature of from 5° to 10° below zero for the winter. It was decided that the nearer they could approach a state of hibernating the better were their chances for getting through. So only the cooks and hunters exerted themselves to any extent, and were given double rations. The rest occupied their sleeping bags and slept from 16 to 18 hours out of every 24.

On November 1, 1883, says Dr. Green, Lieut. Greely took an account of the stock of provisions. They divided up the rations so as to make them last until March 1, providing that a 10-days' supply would be left at the end of that time. This gave to each man the following daily allowances: Meat and blubber, 4.33 ounces; bread and dog biscuit, 6.5 ounces; canned vegetables and rice, 1.4 ounces; butter and lard, .75 ounce; soup and beef extract, .90 ounce; berries, pickles, raisins and milk, 1 ounce—a total daily allowance for the four months of 14.88 ounces. In addition the following game was added to the stores: Two seals, yielding 120 pounds of meat; 1 bear, yielding 300 pounds of meat; 8 foxes (4 pounds each), and 60 dovekies, small birds, weighing about 1 pound each. All the party were alive on March 1 except Sergt. Cross, who died in January of scurvy, the only case of pronounced scurvy that developed.

On March 1 the rations were reduced to the following allowance: Meat, 8.6 ounces; bread and dog biscuit, 3.2 ounces. Shrimps were now being caught, and from 1 to 3 ounces of these a day were added to the ration. On May 12 the last of the regular rations was gone. Shrimps, reindeer moss, and the sealskin linings of the sleeping bags were boiled. Black lichen was also used, though Dr. Pavy advised against it. Dr. Green says:

"There seemed to be but little acute suffering from the lack of food. It was only after the introduction of food into the stomach that the craving became great. For days they went without food without actually suffering. The deaths seemed to take place finally from heart trouble (hydrops pericardii). The feet and face became œdematous; for a day or so they would complain of pains over the heart; have a spasm of pain over the præcordia; a slight general convulsion, and all would be over. Their chief suffering during the winter was from constipation."

After the rescue, Lieut. Greely, Steward Biederbeck, Sergt. Brainerd, and Private Connell were transferred to the Thetis, and were directly under Dr. Green's care, the other survivors being cared for on board the Bear. When the rescuing party reached the camp, Private Connell was pulseless, unconscious, and unable to swallow. He was given a little brandy, followed by some warm condensed milk. The rest of the party were given brandy, milk and beef essence. In two hours all were transferred to the ships. Dr. Green confines himself particularly to the case of Lieut. Greely, and does not even mention the condition of the others, except Connell when found. He fainted on being carried into the wardroom, and vomited. After being placed in a berth Lieut. Greely was given a teaspoonful of raw, fresh beef, minced. His clothes were then cut off, and flannels substituted. His further condition is thus stated:

"On examination his body emitted a sickly, offensive odor; emaciated to a degree, the skin hanging from his limbs in flaps; face, hands and scalp blackened with a deep crust of soot and dirt (having not washed or changed his clothing for ten months)."

"*Nervous System.*—Excitable and irritable, at times almost irrational; eyes wild and staring; insists on talking, craving news, and demanding food; complains of no pain.

"*Digestive System.*—Tongue dry and cracked, heavy brownish-black coat; ravenously hungry, abdominal cavity hollow and lying almost in contact with the vertebral column; no movement of bowels for six days; liver dulness, on percussion, confined to right hypochondriac region.

"*Respiratory System.*—Respirations 12 per minute; auscultation and percussion reveal no abnormal condition of the lungs; vesicular murmur puerile (?).

"*Circulatory System*—Pulse 52, soft and compressible; auscultation shows marked murmur (blowing) in systole over base of heart.

"*Integumentary System.*—Skin cold and clammy, sickly odor emanating from it, shriveled and sallow; temperature, 97.2° (under tongue).

"*Locomotor System.*—Great muscular waste, unable to move or stand without support; body weight, 120 pounds; weight before leaving Fort Conger in August, 1883, 168 pounds.

"Treatment, from 11 P.M. till 8 A.M., alternated every half hour: teaspoonful of raw, fresh beef (minced) with teaspoonful of milk punch; enjoined strict quiet; pulse then rose to 60 per minute, soft; temperature 97°."

The condition of Lieut. Greely is described daily as he improved. The next day after his removal to the Thetis he was allowed to have some home letters read. On the fifth day he sat up in bed, and just a week after the rescue was dressed and allowed to walk a little. He was given food at five stated intervals each day. He gained 9½ pounds the first week, 15 the second, 8 the third, 7 the fourth, 5½ the fifth and 4 pounds the sixth week—bringing his weight to 169 pounds when he landed at Portsmouth. At St. John's Dr. Green reported only two men in good physical condition—Long and Fredericks. Sergt. Brainerd was reported in fair condition and the others weak.

DR. KOCH'S CHOLERA RESEARCHES. THE BACTERIA DECIDED TO BE SPIRILLIUM AND NOT BACILLUS.

PHILADELPHIA, August 27.—At a conference upon cholera held in Berlin at the office of the Imperial Board of Health, Dr. Koch exhibited microscopical specimens of the cholera bacillus, and he demonstrated the method of its preparation and cultivation.

Regarding his recent investigations he stated that microscopical examination of the intestine and its contents revealed a considerable invasion of bacteria, occuring partly within the tubular glands, partly within the epithelium and basis membrane, and in some parts deeper still. This bacterium is smaller than the tubercle bacillus, being only about half, or at most two-thirds, the size of the latter, but much more plump, thicker, and slightly curved. As a rule, the curve is no more than that of a comma (,), but sometimes it assumes a semicircular shape, and he has seen it forming a double curve like an S; these two variations from the normal being suggestive of the junction of two individual bacilli. In cultures there always appears a remarkably free development of comma-shaped bacilli. These bacilli often grow out to form long threads, assuming the shape of delicate long spirals. On account of this developmental change he doubted if the cholera organism should be ranked with bacilli; it is rather a transitorial form between the bacillus and the spirrillium. Possibly it is a true spirrillium. Dr. Koch made an experiment to ascertain whether a very low temperature not merely checked their development but killed them, and subjected the comma bacilli to a temperature of 14° Fahrenheit. They were then completely frozen, but yet retained vitality, growing in gelatine afterward. He also found that the addition of an aqueous solution of iodine (1 in 4,000) to meat infusion, in the proportion of 1 in 10, did not in the least interfere with the growth of the bacilli in that medium. He did not pursue this line of inquiry, seeing that in practice larger quantities of iodine than that could not be given. Alcohol first checks the development of the comma bacilli when it is mixed with the nutrient fluid in the proportion of 1 in 10, a degree of concentration which renders it impracticable for treatment. Common salt was added to the extent of 2 per cent. without influencing the growth of the bacilli. Sulphate of iron in the proportion of 2 per cent. checks this growth, probably by precipitating albuminates from the fluids, and possibly also by its acid reaction; certainly it does not seem to have any specific disinfecting action—*i. e.*, in destroying the bacilli.

Among the substances which prevent the growth of the comma bacilli may be mentioned: Alum, in solutions of the strength of 1 in 100; camphor, 1 in 300; carbolic acid, 1 in 400; oil of peppermint, 1 in 2,000; sulphate of copper, 1 in 2,500 (a remedy much employed); quinine, 1 in 5,000, and sublimate, 1 in 100,000. In contrast with the foregoing measures for preventing the growth of these bacilli is the striking fact that they are readily killed by drying, which is one of the most important facts in the etiology of cholera. He found that in soiled articles when dried for from 24 hours upward the comma bacilli were quite destroyed. In gelatine cultures the comma bacilli can be cultivated for six weeks, and also in blood serum, milk and potato, where anthrax bacilli rapidly form spores. But a resting state of the comma bacilli has never been met with, a very exceptional thing in the case of bacilli, and another reason why the organism must be regarded rather as a spirillium than a bacillus.

The whole etiology of cholera, so far as it is known, suggests the causative view taken as regards the comma bacilli. They multiply rapidly, soon reach their term, and are supplanted by other bacteria; so in the intestine they multiply, set up irritation and diarrhœa, and all the typical symptoms of the choleraic seizure. Under normal conditions—in animals, at least—the bacilli are destroyed in the stomach, and this harmonizes with the important part played by predisposition, and the liability of those to be attacked who are suffering from gastric or intestinal catarrh, or who have overloaded the stomach with undigested food; conditions which would facilitate the passage of the bacilli, unchanged, into the intestine. But the bacillus is limited to the intestine; it is not found in the mesenteric glands or in the blood. How, then, can it destroy life? Probably from the production of a poisonous substance, such as is produced by bacteria in putrefaction.

Dr. Koch reminded those who say that such discoveries do not enable us to cure the disease that a rational treatment of infectious diseases cannot be adopted until their cause and nature are known. The discovery of the cholera bacillus is important, as furnishing an aid in diagnosis which would facilitate the detection of the first case occuring in a district and the adoption of measures to prevent its spread. Knowing, also, the nature and properties of the bacillus, and especially the readiness with which it is killed by drying, the right direction of prophylaxis is assured, and the lavish expenditure of disinfectants checked, so that there will not be a repetition of what happened in the last epidemic, when millions of gallons were poured into the gutters and sewers without the slightest need. Even therapeutically, the knowledge of the comma bacillus may be of value. Diagnosis will be possible in mild cases and in the early stages of the disease, when treatment is of most avail.

Note.—It has been reported, by cable, that some French physicians have (September, 1884) succeeded in producing cholera in the lower animals, by injecting them with Koch's bacillus or spirillium.—Ed.

Indigenous Leprosy in Charleston.—Isolated cases of leprosy have been observed in Charleston and its vicinity for many years, the present being the latest of a series of 20 that have been brought to my notice during the past 25 years. This comprises only those cases that I have myself seen or which have been described to me by physicians familiar with the disease. Although more common among the whites, it is by no means confined to that race, one of the patients being a full-blooded negro and several of them mulattoes. Of the above cases four were Jews. In none of the cases was the disease hereditary, although in one instance a mother and her daughter were affected at the same time. In all these cases except the one just mentioned there was not the slightest evidence of contagion, nor has it ever been deemed necessary to isolate those affected with the disease. When well enough they walk about the streets of the city, attracting but little attention, as the people know from experience that in this country they run no risk of contracting the disease by coming in contact with those affected with it. As isolated cases of leprosy have been observed on the coast of South Carolina for nearly 40 years without any apparent increase in the number of cases, it may safely be inferred that there is but little danger that the disease will ever become endemic in this section.—*Dr. W. H. Geddings in the Medical Review.*

Coca Clinically.—After the removal of alcohol in the treatment of the inebriate, a stage of profound exhaustion and neurasthenia comes on. An unmasking, as it were, of a nameless variety of neuralgias and states of irritation, both physical and psychical, which tax therapeutic resource to its utmost to meet. Functional changes and perversions that are intense, complex and very changeable, associated with organic lesions, both obscure and well defined, not only difficult to diagnose, but more difficult to treat. These are termed, in general, states of brain and nerve exhaustion, and the usual remedies are quinine, strychnine, electricity, baths, nutrients and other general remedies. The materia medica is constantly searched for tonics that will lessen this neurasthenic stage, and enable the patient to regain in some measure his lost control of mind and body, and rise above the mental depressions so common and agonizing. Our experience with coca in many cases seems to indicate that it meets these wants more positively than any other drug now used. Through the kindness of Parke, Davis & Co., of Detroit, we were supplied with the fluid extract of coca leaves, a preparation of known purity and value. The results of its use in these cases may be summed up as follows: 1. After the removal of alcohol, coca given in doses of from one-half to one ounce every four hours was speedily followed by the most characteristic symptoms of improvement. 2. Its action on the brain and nervous system was that of an exhilarant and slight narcotic, relieving depressions and lessening irritable nerve conditions. In cases of organic and functional lesions of the heart, an increased steadiness of pulse-beat and diminution of pulse irritability was apparent. 3. The psychological depressions and neuralgias so common in this stage were lessened, and disappeared altogether in most cases, especially for some time after the use of the drug. 4. Both the appetite and sleep, in all cases where it was given freely, improved rapidly, and the future of these cases seemed to have less complications and more positive recoveries. 5. No evidence was brought out that would indicate it destroyed the cravings for alcohol in cases of dipsomania; but it was clear that given freely in these cases it lessened the intensity and duration of the attack. The conclusion which was indicated by this study was that coca was a tonic of great value in inebriety, and more nearly a specific than any other remedy now known.—*Journal of Inebriety.*

ANÆSTHESIA BY THE ADMINISTRATION OF ETHER BY THE RECTUM.—Dr. Mollière, in a note published in the *Lyon Médicale*, April, 1884 (*London Med. Record*, May 15th, 1884), states that at the suggestion of Dr. Axel Yversen, of Copenhagen, he administered ether by the rectum to several patients. In the first case the ether was thrown into the rectum by means of a Richardson's syringe. In five others, an indiarubber tube the size of the finger was introduced into the rectum and put in communication with a bottle containing ether. The bottle was placed in warm water (50° C.), and the vapor of ether gradually passed into the rectum. Whenever tension of the vapor reached a certain point, part of it escaped through the anus. After five or ten minutes the patients complained of drowsiness and a taste of ether in the mouth. Complete anæsthesia could be produced in this way, but it was generally found advisable to let the patient inhale a few grammes of ether. The advantages claimed for this method are the very small amount of ether needed and the absence of a period of excitement. Its advantages are, of course, obvious in those cases requiring operative procedures about the throat and face.

FORCIBLE DILATATION OF THE CARDIAC ORIFICE OF THE STOMACH FOR STENOSIS. —Prof. Loreta, on the 15th of March last, performed, for the ninth time, dilatation of the orifice of the stomach. The case was one of a young girl aged 20, who had had ulcer of the stomach, followed by constriction, which had steadily increased. At first, solids, then fluids, entered the stomach with difficulty, the body rapidly wasted, and life could only be maintained by nutritive enemata. Having diagnosed stenosis of the cardiac orifice, Professor Loreta opened the abdomen in the linea alba, and found the stomach thick, small, and contracted. He incised it freely, and passed an elastic bougie through the cardiac orifice to make way for his dilating instrument. This soon overcame the obstacle in spite of efforts to vomit. The œsophagus was found much dilated. The apertures in the stomach and abdominal wall were sutured separately. The operation was performed under chloroform in 30 minutes, and the patient, so soon as she had recovered from the narcosis, to the great surprise of the onlookers, swallowed three spoonsful of water with perfect ease. The patient, when Prof. Loreta last wrote, had perfectly recovered.—*Lancet,* April 26, 1884.

ASIATIC CHOLERA.—Dr. Frank W. Reilly, Springfield, Ill., after a careful investigation (*Journal of the American Medical Association*) concludes: Malignant cholera is caused by the access of a specific organic poison to the alimentary canal, which poison is developed spontaneously only in Hindostan. This poison is contained primarily, so far as the world outside of Hindostan is concerned, in the vomit, stools, and urine of a person already affected with the disease. To set up anew the action of the poison, a certain period of incubation with the presence of alkaline moisture is required, which period is completed within one to three days; a temperature favoring decomposition, and moisture or fluid of a decided alkaline reaction, hastening the process, the reverse retarding. Favorable conditions for the growth of the poison are found (1) in ordinary potable water containing nitrogenous organic impurities, alkaline carbonates, etc.; (2) in decomposing animal and vegetable matter possessing an alkaline reaction; (3) in the alkaline contents of the intestinal portion of the alimentary canal. The period of morbific activity of the poison, which lasts, under favorable conditions, about three days for a given crop, is characterized by the presence of bacteria, which appear at the end of the period of incubation, and disappear at the end of the period of morbific activity. That is to say, a cholera ejection, or material containing such, is harmless, both before the appearance and after the disappearance of bacteria, but is actively poisonous during their presence. The morbific properties of the poison may be preserved in *posse* for an indefinite period in cholera ejections dried during the period of incubation, or of infection matter dried during the period of activity. The dried particles of cholera poison may be carried (in clothing, bedding, etc.) to any distance, and when liberated may find their way direct to the alimentary canal through the medium of the air (by entering the nose and mouth, and being swallowed with the saliva), or, less directly, through the medium of water or food in which they have lodged. The poison is destroyed naturally, either by the process of growth or by contact with acids: (1) those contained in water or soil; (2) acid gases in the atmosphere; (3) the acid secretion of the stomach. It may be destroyed artificially (1) by treating the cholera ejections, or material containing them, with acids; (2) by such acid (gaseous) treatment of contaminated atmosphere; (3) by establishing an acid diathesis of the system in one who has received the poison.

IS THE EXTIRPATION OF THE CANCEROUS UTERUS A JUSTIFIABLE OPERATION.—Dr. A. Reeves Jackson, in a printed article from "Gynæcology Transactions," on the above subject, gives the following summary: 1. Diagnosis of uterine cancer cannot be made sufficiently early to insure its complete removal by extirpation of the uterus. 2. When the diagnosis can be established, there is no reasonable hope of radical cure; and other methods of treatment far less dangerous than excision of the entire organ are equally effectual in ameliorating suffering, retarding the progress of the disease and prolonging life. 3. Extirpation of the cancerous uterus is a highly dangerous operation, and neither lessens suffering —except in those whom it kills—nor gives reasonable promise of permanent cure in those who recover. Hence it fails in all the essentials of a beneficial operative procedure, and should not be adopted in modern surgery.

A WINK AS GOOD AS A NOD.—Dr. De la Pommerais was executed in June, 1864, for a murder of the Palmer type. On the night before his execution he was visited by Surgeon Velpeau, who, after a few preliminary remarks, informed him that he came in the interest of science, and he hoped for Dr. De la Pommerais's co-operation. "You know," he said, "that one of the most interesting questions of physiology is as to whether any ray of memory, reflection or real sensibility survives in the brain of a man after the fall of the head." At this point the condemned man looked startled; but professional instincts at once resumed their sway, and the two physicians calmly discussed and arranged the details for the next morning. "When the knife falls," said Velpeau, I shall be standing at your side, and your head will at once pass from the executioner's hands into mine. I will then cry distinctly into your ear, "Count De la Pommerais, can you at this moment thrice lower the lid of your right eye, while the left remains open?" The next day, when the great surgeon reached the condemned cell, he found the condemned man practising the sign agreed upon. A few minutes later the guillotine had done its work, the head was in Velpeau's hand and the question put. Familiar as he was with the most shocking and ghastly scenes, he was almost frozen with terror as he saw the right lid fall, while the other eye looked fixedly at him. "Again!" he cried frantically. The lids moved, but they did not part. It was all over—*Med. Review.*

A BERLIN POLYCLINIC.—There are opportunities for the acquisition of different branches of special medicine, amongst which are the following: Ophthalmology, neuropathology and electro-therapeutics, laryngoscopy, otology, rhinology, dermatology, syphilidology, histólogy, bacterioscopy and forensic chemistry. These specialties are taught in monthly courses. Three laboratories are attached to the institution, one each for chemistry, histology and bacterioscopy. The director is Dr. Ludwig Loebe.

THE GYNÆCOLOGIST.—Dr. Allbutt, in an address recently delivered in London (*Lancet*, March 15, 1884), thus arraigns the gynæcologist. He says that "a neuralgic woman" is either told that she is hysterical or that it is all uterus. In the first case she is comparatively fortunate, for she is only slighted; in the second case she is entangled in the net of the gynæcologist, who finds her uterus, like her nose, a little on one side, or again, like that organ, is running a little, or is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year, except during the long vacation, when the gynæcologist is grouse-shooting, salmon-catching, or leading the fashion in the Upper Engadine. Her mind, thus fastened to a more or less mystery, becomes newly apprehensive and physically introspective, and the morbid chains are riveted more strongly than ever. Arraign the uterus and you fix in woman the arrow of hypochondria, it may be for life."

LATE TYING OF THE UMBILICAL CORD GIVES THE CHILD MORE BLOOD.—Dr. Edward Alcorn gives a résumé of the experience of various writers on this subject, which proves that the children whose cords are left uncut until after the placenta has been expelled thrive much better than those in whom it is cut before.—*N. Y. Med. Times.*

ACUTE PNEUMONIA.—The report of the Collective Investigation Committee on pneumonia, although only provisional, contains a great deal of interesting matter, and is based on an analysis of 350 cases. The general result of the pathological inquiry is thus summarized: "We think the evidence before us is insufficient to support the doctrine that pneumonia is a specific fever, whose chief manifestation is in the lung. Like other respiratory diseases, we find it prevailing in certain states of the weather; and, apart from all else, the great regulator of its frequency is season. It may be taken for certain that it confers no protection upon the individual, but rather an increased liability to future attacks. It appears to have no direct association with any specific or conveyable disease, and its near alliance with tonsillitis is in striking contrast with its infrequency in connection with diphtheria. Instances of pneumonia undoubtedly occur which are apparently "pythogenic," but those which have this origin are not otherwise separable, so far as we see at present, from others which are obviously due to exposure. Epidemic pneumonia, as judged of by the cases we are now reporting on, is in part explained by atmospheric conditions, and in part by other agencies generally prejudicial to health.—*British Medical Journal.*

Heart Beats.—Dr. N. B. Richardson, of London, the noted physician, says he was recently able to convey a considerable amount of conviction to an intelligent scholar by a simple experiment. The scholar was singing the praises of the "ruddy bumper," and saying he could not get through the day without it, when Dr. Richardson said to him: "Will you be good enough to feel my pulse as I stand here?" He did so. I said, "Count it carefully; what does it say?" "Your pulse says 74." I then sat down in a chair, and asked him to count it again. He did so, and said, "Your pulse has gone down to 70." I then lay down on the lounge, and said: "Will you take it again?" He replied: "Why, it is only 64; what an extraordinary thing!" I then said: "When you lie down at night, that is the way nature gives your heart rest. You know nothing about it, but that beating organ is resting to that extent; and if you reckon it up it is a great deal of rest, because in lying down the heart is doing ten strokes less a minute. Multiply that by sixty, and it is six hundred; multiply it by 8 hours, and within a fraction it is 5,000 strokes different; and as the heart is throwing 6 ounces of blood at every stroke, it makes a difference of 30,000 ounces of lifting during the night. When I lie down at night without any alcohol, that is the rest my heart gets. But when you take your wine or grog you do not allow that rest, for the influence of alcohol is to increase the number of strokes, and instead of getting this rest, you put on something like 15,000 extra strokes, and the result is you rise up very seedy and unfit for the next day's work till you have taken a little more of the 'ruddy bumper,' which you say is the soul of man below."

Origin of Canned Fruits.—It is a singular fact that we are indebted to Pompeii for the great industry of canned fruits. Years ago, when the excavations were just beginning, a party of Cincinnatians found, in what had been the pantry of the house, many jars of preserved figs. One was opened, and they were found to be fresh and good. Investigation showed that the figs had been put into jars in a heated state, an aperture left for the steam to escape, and then sealed with wax. The hint was taken, and the next year fruit-canning was introduced into the United States, the process being identical with that in vogue at Pompeii twenty centuries ago. The ladies in America who can tomatoes and peaches do not realize that they are indebted for this art to a people who were literally ashes a few years after Christ. There is nothing new under the sun. Canned tomatoes and loaded dice—the people of Pompeii had both.—*American Druggist.*

Hot Water Injection in Hæmorrhage from the Nose.—In conversation with the eminent surgeon Dr. J. W. Thompson, of Paducah, Ky., the other day, he remarked that Prof. Henry Miller had told him when he attended college that almost all the improvements in the practice of surgery were due to country practitioners, and that nearly all of the men eminent in medical science first practised their profession either in the country or country villages. As an instance of the truth of this statement Dr. Thompson mentioned a case of hæmorrhage from the nose which had bothered him greatly. The patient was an apparently healthy man, in whom the hæmorrhage occurred without any assignable cause. It came on suddenly and copiously. Dr. Thompson tried alum, cold and other obtainable styptics, and finally resorted to plugging the nostrils. He thought that now he had conquered the difficulty and returned to his office. He then picked up a little country medical journal, the name of which he had forgotten, and found therein an article written by a country practitioner recommending hot water injections for hæmorrhage from the nose. Dr. Thompson had scarcely read the article when a messenger arrived from his patient who stated that the bleeding had commenced anew, notwithstanding the plugs. Dr. Thompson immediately had recourse to the water injections for the purpose of cleaning the nostrils, and was delighted to find that the hæmorrhage promptly ceased. The use of hot water as a hæmostatic in other cavities of the body is well known, and it would seem that it is beneficial in hæmorrhage from the nose, a point worth remembering.—*Medical Herald.*

The Turpentine Treatment of Diphtheria.—Satlow (*Jahrbuch f. Kinderheilk.; St. Petersb. Med. Woch.*) relates his experience in forty-three cases, eight of the patients being adults, and thirty-five children. Only one died, a child five years old, who died of paralysis of the heart on the sixteenth day. The cases were all diphtheria proper, the author having had no experience with the treatment in the so-called scarlatinal diphtheria.

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MEDICAL NEWS.

International Medical Congress.—Philadelphia, August 21.—A special cable despatch from Copenhagen to the *Philadelphia Medical News* states that the International Medical Congress, which has just adjourned, is pronounced on all sides to have been a marked success. Sir William Gull, on behalf of the Collective Investigation Committee of the British Medical Association, delivered an admirable address on the international collective investigation of disease, and moved the appointment of an international committee to undertake, collectively, the prosecution of pathological research. The resolution was adopted, and Drs. A. Jacobi, of New York, and N. S. Davis, of Chicago, were appointed the American representatives on the committee. Prof. R. Virchow, of Berlin, gave an address on metaplusia, and Prof. Panum, of Copenhagen, an address on investigations of food rations for men in a state of health and disease. Upon the conclusion of the programme Dr. John S. Billings, of the United States Army; Prof. Carl. J. Rossander, of Stockholm; Sir Risden Bennett, of London, and Prof. Virchow, of Berlin, in brief speeches presented on behalf of the foreign members their thanks for the cordial hospitality with which they had been received, and congratulations on the successful termination of the session. Prof. Panum thanked the members for their attendance at the congress, and declared the session adjourned. The social features of the congress were marked. The corporation of Copenhagen gave a grand banquet to 1,200 members of the congress, and upon its conclusion the guests were conveyed in boats to Tivoli to view the illumination and fireworks, which was a superb sight witnessed by fully 30,000 persons. The King of Denmark also entertained the members in the evening at a reception in the palace, at which all the members of the royal family were present. After a handsome collation had been served, the King offered a toast to the health of the foreign members, to which Sir William Gull responded. On the evening of the day of adjournment a farewell festival was given to the members and the ladies accompanying them. The congress before adjournment decided to hold its next session in Washington, D. C., in 1887.

Medico-Legal Aspect of Embalming with Arsenic.—The widely extending employment of preserving fluids containing arsenic for embalming dead bodies is at last bringing all to consider the legal questions involved. The impossibility of determining the presence of poisons in persons so embalmed is obvious, and the facility with which the fraud can be practised to conceal arsenic poisoning is a subject for legislative enactment.

A VALUABLE BEQUEST TO BELLEVUE COLLEGE.—Mr. Andrew Carnegie has given fifty thousand dollars to be expended in the erection of a laboratory building and apparatus for practical work in everything relating to the microscopical and experimental research in different departments of medicine.

THE SOCIETY OF THE RED CROSS.—At the International Congress, to be held in Geneva, Switzerland, during September, the United States will be represented by Miss Clara Barton.

THE *Fort Wayne Clinic*, the public are informed, is the title of a new monthly journal that is to be established at Fort Wayne, Ind.

PATHOLOGY OF BRICKS.—A French exchange states that M. Parize has discovered swarms of bacteria in the very centre of a common house brick. It is not stated whether tubercles were present or not.

THE Northeastern Dispensary of New York City has recently divided several hundred dollars among its medical staff in acknowledgement of valuable services rendered the institution.

DR. JULIUS WISE, of 806 Olive street, St. Louis, Mo., proposes to publish an "Encyclopædia of Medical Wit, Humor and Curiosities of Medicine." He wants all doctors who know anything funny, of a medical nature, to contribute it. He says the volume will be a large one (?).

THE Mississippi Valley Medical Association will hold its next meeting in Springfield, Ill., in September.

LAWSON TAIT recommends the radical cure of all kinds of hernia by abdominal section. After reducing the hernia he pares the edge of the hernial opening and sews it up, thus producing a radical cure. He thinks the future of the operation is certain. The cases he operates upon are those having ovarian disease, but he thinks that the same procedure is fitting for uncomplicated cases of hernia.

THE Assembly of New York has passed a bill prohibiting the sale of drugs by any persons except physicians and pharmacists. The grocers are indignant.

PROF. ROBERT E. ROGERS has resigned the professorship of chemistry in the Jefferson Medical College on account of feeble health. His successor will probably be elected next month. (NOTE.—He is dead. See Biographical Department.)

THE French Chamber has voted eighty thousand francs to M. Pasteur for his experiments in connection with contagious diseases, and for the erection of laboratories for the purpose.

A CHINESE physician has been permitted to register in New York City to practise among his countrymen.

THOMAS JONES GRIFFITHS, M.D., Surgeon U. S. Marine Hospital Service (retired), was born in South Wales, September 10, 1826, and died at his residence in Louisville, Ky., June 1, 1884. He received his literary education in England, and at an early age came to this country and settled at Louisville, Ky., where he studied medicine and was graduated at the Kentucky School of Medicine in 1852.

THE Louisville Medical College has issued its catalogue and annual announcement for 1884-85, and in deference to the opinions of the various State Boards of the country, and also in conformity with the wishes of the faculty, the Board of Trustees have added the subject of hygiene to the curriculum ; they have also made an addition to the faculty in the person of Hon. W. B. Fleming as a teacher of medical jurisprudence. A most excellent appointment. Moreover, a preliminary examination is required of the students before they are permitted to join the class, and the college is thus placed on a level with many of the foremost institutions of the country. Such changes will redound to the benefit of the institution, and in the future, as in the past, the Louisville Medical College will reflect credit upon the medical profession, its faculty and its alumni.

THE *American Practitioner* says : Dr. Brandini, of Florence, has recently discovered that citric acid will assuage the violent pain which is the usual concomitant of cancer. He applies to the part pledgets of lint soaked in a solution of four grains of the acid in three hundred and fifty grains of common water, with the result of affording instantaneous relief in the most aggravated cases.

RETRIBUTION.—One of the largest stockholders in the Columbus (Ohio) Medical College has been offering his stock for sale for several months, in a leading newspaper, but without effecting a sale, though asking only ten cents on the dollar.

PEPSIN is said to be used with success for digesting an accumulation of blood in the bladder.

DR. WM. R. WEISIGER died at Manchester, opposite Richmond, Va., on the 28th ultimo, in his 56th year. He was President of the Microscopical Society of Virginia, and a warm devotee to the science of microscopy.

DR. R. B. STOVER has withdrawn from the editorial management of the *Atlantic Monthly*, which will be continued under the sole conduct of Dr. H. G. Houston.

ATTACKS upon physicians have been made in the cholera-infested districts of France and Italy as the result of a superstition common among the lower classes of all countries. The belief that physicians and druggists connive to poison the people during the prevalence of epidemics is one of the most curious of manifestations.

DR. SUTTON, of Pittsburg, having performed enterotomy on the wife of a wealthy resident of that city, removing four inches of intestine, was encouraged, by the fact of her complete recovery, to send in a bill of $1,000 for the operation and twenty-two days of attendance in the after-treatment. Each member of the jury, who finally adjudicated the matter, wrote on a slip what he thought would be a proper fee, and the sum total of the amounts thus voted, divided by twelve, was agreed upon as the verdict. The dividend was $330. One of the jurors thought about $10 would be a fair price, and another was willing to allow $30.—*Age.*

A correspondent of the *Lancet* says that Dr. Weir, Health Officer of Bombay, found in the well-water used by certain cholera patients the so-called cholera bacillus discovered by Professor Koch. Dr. Balfour, who was present, drank at once a quantity of the water, much against Dr. Weir's wishes. But Dr. Balfour was not in the least disturbed by the cholera bacillus, and Dr. Weir can hardly say whether or not he is pleased with the result of the experiment.

New York State Pharmacy Law.—Governor Cleveland having signed the State Pharmacy Bill, hereafter every pharmacist and druggist in the Empire State must be either a graduate in pharmacy or a licentiate. A board, consisting of five representative pharmacists, to be known as the State Board of Pharmacy, will be appointed at once. The New York State Pharmaceutical Association, at its meeting on June 10, nominated ten candidates for the position, from which the Governor will select five to constitute the Board.

Death in an Asylum.—The Hon. Evans D. Allnutt died September 9, at the Anchorage (Ky.) Lunatic Asylum, and with his death comes the story of a revolting crime. It is charged that Mr. Allnutt was brutally murdered by two attendants, named McClanahan and Ballard, who were discharged from the institution six or seven weeks ago.

Dr. J. McF. Gaston, of Atlanta, Ga., is making some interesting experiments on dogs, looking to establishing a communication between the gall-bladder and the upper intestines in cases of obstruction to the bile duct. He will have an interesting article in the next issue of this Journal, giving results of some of these experiments.

American Concours.—At the late meeting of the Ohio State Medical Society, a resolution was introduced favoring the establishment of a State Board of Medical Examiners in whom alone should reside the power to confer the degree of doctor of medicine. A member, in all seriousness, moved to amend the resolution by providing that "no man shall serve on the said board until he has won his position by a competitive examination, made by a committee appointed by this society, said examination to be conducted orally and in public, at the Capitol of the State." That was a "sticker" for the Buckeyes, and, rather than let the public know just how much they knew about medicine, they voted down the amendment and the resolution, and everything connected with it.—*Age.*

EDITORIALS.

Alienists and Experts.—Before the bar of medical opinion it has long and justly been decided that the claim of psychologists and psychiatrists to be experts in determining the fact and degree of mental alienation is absolutely without foundation. Their record of contradiction, antagonism, untenability of position, confusion and confliction in weighing evidence, etc., has been quite sufficient to destroy the confidence of the medical profession.

Before the general Public they once had some position of dignity and respect, but this is gone; and justly. A leading daily paper of New York contains the following rasping criticism:

"The examination of Rhinelander has already vindicated the wisdom of the new Criminal Code in requiring the question of a culprit's insanity to be settled by experts in evidence before he is called upon to plead to an indictment. The effect of such testimony as has been given in his case, if given before a common jury, would have been hopelessly to muddle the minds of the jurors, and would have ended in giving such of them as thought that Drake had been 'served right' a chance to put their sympathies in the form of an acquittal, on the ground of *justifiable insanity.* If the plea of insanity is barred out by the Commissioners, and Rhinelander is called to stand trial as a sane man, it will be hard for the most sympathetic juror to declare that the interference with Rhinelander's domestic relations by Drake constituted a justification for the attempted killing of Drake by Rhinelander.

"It would not be proper, however, at this stage of the proceedings, to offer an opinion as to the weight of the expert evidence. One thing, however, is clear, that the evidence is not, in any proper sense, that of *experts.* Men, of equal eminence and equal pretensions, cannot come to diametrically opposite conclusions upon the same data, in any branch of knowledge that deserves to be called a science. This has occurred in the examination of Rhinelander; it occurred in the trial of Guiteau. It is tolerably sure to occur in every case where the sanity of a man is in question and each side has money enough to hire witnesses who will swear that *they are experts.* These witnesses are familiar to everybody who reads the reports of these trials. There is the alienist who maintains that everybody whose sanity is disputed is sane; there is the alienist who maintains that every such person is insane; there is the alienist who maintains that certain physical symptoms of insanity are infallible; there is the alienist who maintains that those symptoms amount to nothing, and, in private, that the alienist who maintains that they do amount to anything is an impostor and a quack. *The alienists, indeed, agree in nothing except in calling themselves experts, and in describing this muddle of contradictions as a science.*

"The truth seems to be that there is as yet no such science as these people profess, and that the pretensions of the experts are unfounded. It may be that mental disturbance, even in its earlier stages, is manifested in physical symptoms which will in time come to be recognized with certainty, and that some experimenter may yet detect the *microbe of 'general paresis.'* But that has not yet been done. If an alienist were at liberty to vivisect the brain of a man suspected of insanity he *might* arrive at some conclusions. But in the most famous of all insanity cases—that of Guiteau—even a dissection of the brain after death shed no light whatever upon the discussion that had been hotly carried on when he was alive. *In the meantime the alienists have no advantage over people who make no pretensions.* All spend their lives in drawing conclusions upon the mental state of those with whom they come in contact, from their talk and actions. The only expertness possible is that advantage in judging which comes literally from experience. A physician who has had much to do with insane people, as in the capacity of superintendent of a lunatic asylum, will have an advantage over physicians and over laymen, in guessing whether the eccentricity of a person obviously 'queer' amounts to an insanity which renders him unaccountable for his own actions, and therefore dangerous to be permitted to go at large. But even here the result is arrived at by guesswork. Nothing is gained, except to professed experts, who take scientific airs and pretend that this guesswork has a scientific precision and infallibility, and use long Greek words to convey that most delusive impression.

"This is the most obvious moral of the case of Rhinelander, as it is of every other proceeding *de lunatico inquirendo* that comes before the courts."

A fearful judgment this is of those who claim a wisdom superior to that of their medical brethren. It is the view that has always been editorially advocated by this JOURNAL. Psychiatry may yet become a science. So far, it is a delusion; usually a sham; often a fraud.

"THE LAST FASHION WITH MEDICAL JOURNALISTS."—Under this head the editor of GAILLARD'S MEDICAL JOURNAL vents his spleen upon such journals as dare to mention an advertiser of any kind, in the following words:

"If these writers and so-called editors are not ashamed of themselves, their friends are at least ashamed of them. This selling of their editorial columns, directly and indirectly, is a shame on respectable journalism. It is remarkable that such men take their subscribers to be idiots, in supposing that they can be deceived by such editorial twaddle, venalism, and mendacity."

What does the editor of GAILLARD'S JOURNAL say of an editor who reviews a book that is nothing more than an advertisement, and who does not refer at all to the fact that it is an advertisement, when it is so characterized by others? For our part we can see no harm in giving responsible advertisers a notice when you have that notice properly displayed, that readers may not be misled; and feeling that way, we shall continue to give advertisers such notices as they deserve.—*Atlanta Medical and Surgical Journal.*

The editor of GAILLARD'S MEDICAL JOURNAL has nothing to retract or to modify in regard to his opinions as quoted by the *Atlanta Medical and Surgical Journal.*

The editors of that journal claim the right to form their opinions, to express them, and to act as they deem right. They must concede the same right to others

They consider it right to editorially eulogize advertisers, to republish the eulogies of others, and say that they shall continue to do so. So be it. They can do as they deem best. Others hold other opinions, and claim also the right to express them.

It is the opinion of the editor of GAILLARD'S MEDICAL JOURNAL that the routine eulogy of advertisers, and of wares advertised is a stigma upon the medical press; one of its greatest vices, and most serious errors.

Very often the giving of such notices is made a part of advertising contracts; that is, these notices are then given for an equivalent in money; they are bought. In the past ten days this JOURNAL has refused an advertisement yielding $90, because the contract specified that editorial notices were to be given. This fact is given as an illustration. If others please to accept such offers, and to give purchased notices, they may do so; they have the right to do so; but this

JOURNAL has the right to express its opinion of the transaction. It has often done so; and will always do so.

All advertisers who pay the price demanded for space have equal claims to editorial eulogy. If, in a spirit of justice, all be treated equally, and all be eulogised, the eulogiser being in reality ignorant of the processes, and materials and methods of many, he is (independently of the enormity of selling notices not regarded by the readers as purchasable) in reality writing and acting untruthfully, for he declares such processes, materials and methods to be proper and reliable, when he does not know such to be the fact. If other editors think differently, so let them think, and act and write. It is their right—but it is also the right of this JOURNAL.

As to what is to be said of an editor who reviews a book which is an advertisement, and who conceals the fact, such saying will be brief and to the point. All books are advertisements. Their sale is to secure profit. But, to deal directly with the issue made by the *Atlanta Medical and Surgical Journal*, there must be no reserve, and there will be none.

The book alluded to is called the "Elementary Principles of Electro-Therapeutics," by C. W. Haynes, M.D., Chicago, and is reviewed on page 691 of the June number of this JOURNAL.

It is distinctly stated in that review that the book is published by the "McIntosh Galvanic and Faradic Battery Co.," a commercial House known to every reader as makers of electric batteries. There was no possible evasion or concealment of the fact. It forms a part of the record. But the book was reviewed, as are all books in this JOURNAL, strictly on its merits. Its excellencies were indicated, the reasons for commending it were given in detail, and it was on account of those excellencies recommended to the reader.

Was the book, with its many advantages (and with its many merits not even mentioned in the review), not to receive full justice because, though ably written by an excellent medical author, its publishers, as stated in the caption of the review, are engaged in manufacturing one of the many varieties of electric machines described and recommended in the work?

The Review Department of this JOURNAL is nearly twenty years old. Nearly every review in it has been written by the editor. He knows, therefore, it is safe to say that in no review has the strictest impartiality ever been deviated from, and that no one has ever suggested that there was any object ever in view other than the strictest sense of justice to the author and to the Profession.

It is hoped that each reader will turn to the review mentioned, and decide whether or not this JOURNAL is in any degree justly chargeable with a concealment of the fact indicated by the *Atlanta Medical and Surgical Journal.*

THE *Atlanta* (*Ga.*) *Medical and Surgical Journal* can discover no harm in supplementing the claims of its advertising pages by editorial endorsements! Accordingly it informs its readers, editorially, that "—— make as fine photographs as can be made anywhere;" that "—— has one of the best stocks of clothing to be found anywhere, and at prices to suit the times;" that "Atlanta made watches, with ——'s patented improvements, have already achieved a widespread celebrity," and so on *ad infinitum et ad nauseam.* Well, *chacun à son gout.* We do not think, however, that this style will ultimately prevail among the better class of medical journals.—*The Medical Age.*

Annual Catalogue of the Louisville (Ky.) Medical College.—The Faculty of this college will hereafter exact a preliminary examination of all applicants; excepting only the graduates of literary, or scientific colleges, academies, or high schools, or those who have, in other ways, given evidence of sufficient proficiency for entering upon the actual and collegiate study of medicine.

While this college, like many others, has determined to exact a "preliminary examination" of applicants for admission into its classes, in order to meet the requirements of the law in several States, and, while it is to be commended just as much as are all other colleges so acting, it must be said that the examinations exacted by these institutions are perfunctory in character and useless in effect—done merely to meet or satisfy the text of the law. The whole movement is useless, if not foolish. The doors of a medical college should be freely and fully open to all students without the pretence or farce of an examination. How many students in an entire year, and in this entire country, are prevented from taking a course of medical lectures by the preliminary examination required? Is there one? How many colleges are there which thus decline to admit students?

The circumstances of the case, and what Burton terms "the philosophy of human nature," are such, that such an examination is perfunctory in character, and, in plain language, is a sham and a farce. It has always been so; it will always be; it must always be so; and so will every Faculty declare that will be frank enough to speak freely and fully.

If a student is not prepared to take a course of lectures, this fact is certainly a matter of no interest or consequence to the Faculty, the profession or the Public; but if he is not prepared to graduate and to take the grand issue of life or death in his hands, then, and then only, should he be stopped and sent back. If he is to waste his time and his means in a medical college, and be unfit to graduate, that piece of folly concerns him, and him alone. A Faculty is not to take upon itself the office of dry-nurse as well as that of teacher. It stands prepared for the last, but certainly not for the first. Its office is to teach and then to test; it deals with the future of the student and not with his past. That future is of great interest and importance to the safety of society and of life; the past concerns only the young man.

All improvements in colleges are for the good, the welfare and the safety of the Public and of the Profession. Therefore, the teaching of a student should be the best possible; the test of the student as to such teaching should be absolute and rigid and thorough; but as to inquiring of his proficiency when he is to begin his medical college life, such an act is as foolish and supererogatory as would be the inquiry in regard to the details of the young man's early physical life: when he cut his teeth, and how old he was when he donned his first pair of boots!

Apart from all this, however, it cannot be denied that the preliminary examinations of medical colleges are shams and farces; they must be so, and will be so; and all shams should certainly be avoided. What there is of medical college work should be true and genuine and thorough.

This is all very unfashionable; some may call it heresy; it is "behind the times;" journalistic apostacy, etc.; let it be called by any name, it is the truth; and every reader will so declare.

Exclusive of this matter of preliminary examinations, the Louisville Medical College has made many improvements in its equipment, and is better prepared than ever to give a thorough, practical and *bona fide* course of instruction. Its laboratory for teaching practical chemistry; its perfect dissecting arrangements; its valuable museum; its gymnasium, etc., show that its Faculty are fully alive to the interests of their students and the best facilities needed by them.

AVOID THE WELLS.—The careful examination of water taken from wells in this city recently made by Dr. Edson and his assistants revealed facts of great importance which ought to have been discovered and given to the Public long ago. It appears that not one of the thousands of wells—driven, artesian, or excavated—that have been made on this island supplies water that can safely be used in cooking or to quench thirst. Analysis of this water, drawn, it may be, from deposits a thousand feet below the surface, proves that it is heavily charged with organic matter. One can easily believe that water taken by pumps or buckets from ordinary shallow wells in thickly-settled parts of the city is unfit for use, for such a well must have many of the characteristics of a cesspool. Offensive liquids soak through the soil from the surface and enter these receptacles. Sewage inevitably finds its way into them. The water may appear to be clean, and it may be palatable, but it contains the seeds of disease.

Many intelligent persons have supposed, however, that, while shallow open wells might be dangerous, artesian wells and deep-driven wells supplied pure water. It is possible to procure pure water in some cities from artesian wells, but, owing to the peculiar geological formation of this island, wells of this kind thousands of feet deep are as bad as those only thirty feet deep. Sewage and other offensive matter constantly accumulating on the surface in a city of 1,400,000 inhabitants works downward, and those who draw water from artesian wells bring it up again. Analyses show that the deepest wells do not escape contamination.

Many of the most dangerous preventable diseases are caused or communicated by the water that is drunk. Water polluted by matter rejected by the human system should be avoided as one avoids a deadly poison. The water supply of a family or a group of families, if polluted by such matter, may not only cause disease, but also convey it from the sick to those who are in good health. Those who use water taken from such wells as these which Dr. Edson has condemned are always in danger. Asiatic cholera, like some other plagues, is fostered by filth, and it is believed that the disease spreads rapidly in cities where polluted water is used. The Health Department and its agents are engaged in a good work. No one should be allowed to use the water taken from these polluted wells.

Miscellaneous Consultations.—Dr. S. P. Breckenridge, of Chattanooga, Tenn., recently read a paper before the Medical Society there, in which he advocated the right of engaging in miscellaneous consultations with "homœopaths, eclectics, old women, Chinamen or negroes."

He says that "an intelligent man should not be forbidden to listen to their nonsense before he prescribes."

"Every self-respecting physician would instantly withdraw if the whole management of the case was not left in his hands."

Where would be the *consultation* for which the physician was called in and paid? Ought not the "self-respecting physician" refuse to place himself in such a position, that while taking the whole charge of a case to which he was called only in consultation, he not only supplants the attending physician, but charges a consultant's fee?

Dr. Breckenridge's arguments are as good as any so far presented for becoming a medical Ishmaelite, and this is the argument: Go as a consultant, usurp the case, but charge a consultant's fee. No one who knows this advocate of such a course would believe that he could be guilty of adopting it. And yet his views are about as good as any yet presented in behalf of such consultations.

Cannibalism.—The secular press has for weeks been full of disgraceful sensational articles in regard to the so-called cannibalism of the "Greely expedition." That some portions of some of the dead were eaten is very true, but such action was natural under the circumstances, and just what the censors and critics would have done.

There was, however, no cannibalism, no destruction of life for obtaining food. The dead were, it is true, partially eaten.

The vulgar curiosity and bestiality manifested in the exhumations of the dead, buried at last at their old homes, has been pitiable and degrading. No ties of family, or kindred, or love, or friendship were, it seems, sufficient to prevent very many from clamoring for exhumations, the results of which could only gratify a fiendish and ghoul-like appetite. These human hyenas have disgraced their age, their country and modern civilization. More than this, the secular press has pandered to, stimulated and led this vulgar and beastly curiosity.

Dr. Squibb on Rectal Etherization.—A new fashion has lately been introduced of producing anæsthesia by the introduction of ether vapor into the rectum and colon, and, however irrational and unpromising, it soon found numerous followers. The result is that although several lives have been sacrificed, even in the short time since its introduction, it is still practised and recommended. The absorption of ether vapor by the walls of the intestine must necessarily be irregular and uncertain, in consideration of the known phenomena of local anæsthesia, for if the walls be thoroughly paralyzed and relaxed by the anæsthetic, the contained vapor might as well be in a distended bladder outside the body. But if no obstruction by fæces or by spasmodic contraction should be present, and the vapor should pass far up in moderate quantities, insufficient to do more than stimulate the parts, the absorption might be very rapid. In short, the conditions of such an application are so little known and so little under control, and are so far beyond the reach of observation, that for the present, at least, the method is irrational and unjustifiable.

THE CHOLERA.—The New York State Board of Health, for the purpose of giving confidence to the Public, stated in its official issue that the profession understood the nature of cholera far better than it did at the time of the last epidemic in this country; that it was better able to keep the disease within metes and bounds; and that the treatment of the disease was now better understood. How is the accuracy of these statements sustained by the French and Italian epidemics? Naples is having its population stricken down daily by the hundreds, and of these nearly one-half die! In Marseilles and Toulon the picture was one of professional impotency and popular dismay. What does the profession know really of the nature of cholera; of controlling its spread and of treating the disease?

DR. OLIVER WENDELL HOLMES reached his seventy-fifth year August 29th. The successive deaths of Bryant, Longfellow and Emerson, most notable figures in the circle of literati to which he belongs, can hardly fail to sadden him with the thought of his own loneliness. Unfortunately, the recent loss of one of his sons must make it impossible for him to preserve his high spirits. Yet if the good-will and admiration of his readers and his friends can at all avail to make him less distressed, it must be a consolation for him to know that, all the English-speaking world over, and in some lands where other tongues prevail, he is cherished as perhaps no other American writer has been. His birthday has not been forgotten.

ABBREVIATIONS.—Professor Wilder in his course of lectures on the Cartwright foundation (*Pa. Med. Times*) has used "alinject" to designate "inject the veins of the cadaver with alcohol," and says, in justification, "since 'aldehyde' is generally accepted as a legitimate abbreviation of '*alcohol dehydro genatus*' (and 'phenol' is accepted for '*phenilic alcohol*'), there seems to be no *a priori* objection to 'alinject.'"

By a parity of reasoning, let us have "chronimation" for chronic inflammation; "sulphia" for sulphate morphia; "morphinject" for hypodermic injections of morphia; "lacerinæum" for lacerated perinæum; or "tom-cats" for tomato catsup.—*Courier-Record.*

GENIUS AND LONGEVITY.—Did not Lord Rosebery go too far when he said that "genius, as a rule, made quick work with life?" Of the world's greatest poets, for instance, how many have died young? Burns and Byron and Keats and Shelly and Schiller, are all cases in point; but as a rule they crowded a lifetime into a few brief years and then hurried off. Æschylus was 69 years old when he died, Euripides 73, and Sophocles 89. Virgil survived his half century by one year, and Horace, though also born in a short-lived age, died at 57. Danté did not die in spite of all his troubles till he was 56, and Shakespeare at his death was 52 years old. Chaucer lived till he was 72, Milton 66, Voltaire died at 84, Calderon at 86, Goethe at 83, and Wordsworth at 80.

THE ROAD TO RUIN.—Some of the younger journals are sent to any physicians whose addresses may suit the fancy of the editors. If the journals are not returned, or if the journal office is not notified " to stop its foolishness," bills are next sent, and the unfortunate doctors are asked to pay for a work which they never ordered.

This is " the road to ruin " for the young journal, as no one of sense can believe that he should pay for what he did not order.

Journals should be sent only on order to new subscribers; they are, of course, continued, by consent, to old subscribers.

PRUSSIC ACID INSTEAD OF THE GUILLOTINE.—One cannot avoid being interested in a bill which has just been introduced into the French Senate for replacing the guillotine by prussic acid. The guillotine is probably more expeditious than the gallows ; but, according to M. Charton, the author of the bill, the head lives for a short space of time after its severance from the body, and in any case an execution in France is a very ghastly spectacle. M. Charton does not bind himself to prussic acid, and suggests the discharge of a powerful electric battery as an alternative. It certainly is time that the resources of science were brought to bear on capital punishment.

FEMALE PHARMACISTS.—It may not be generally known that there exists in the United States a special school for the teaching of pharmacy to women. The institution is located in Louisville, Ky., and has recently held its first commencement, at which an address was given by Dr. D. Yandell. There is no doubt that this calling is one peculiarly fitted to women, and therefore it is much to be desired that it should be handsomely supported. More employment, and more remunerative employment, is demanded for women of better education, and pharmacy supplies one of the most suitable character.

CHOLERA AND THE FISH PARASITE.—Prof. Huxley lends scant countenance to what has been called by English brethren the " mackerel scare." In a letter he says : " It is quite true that mackerel, like other fish, are more or less infected by parasites, one of which, a small thread worm, is often so abundant as to be conspicuous when the fish is opened. But it is not true that there is any reason to believe that this thread worm would be injurious to a man even if swallowed uncooked and alive, and to speak of it as a possible cause of cholera is sheer nonsense."

OFFICIAL FOLLY.—Acting Secretary of State Davis has sent the following commendatory letter to United States Consul Frank H. Mason, who has remained at Marseilles during the cholera epidemic in that city and Toulon: "I take pleasure in expressing to you the high appreciation of the Department for the courage and devotion which you have evinced by continuing at your post during the prevalence of the scourge which has visited those cities in the face of danger which has surrounded you since its outbreak. Your report is exceedingly interesting, and the information it conveys of a very useful character." Did the Secretary of State expect Mason to run away from his post of duty? Every doctor does what Mason did. Who thanks them?

STATUS OF THE SHIP SURGEON.—An advertisement mentions, among the advantages which are are offered by a passage on the vessel advertised, the following: "The good ship is amply provided with wines and spirits of the best quality, which may be obtained on board at moderate prices. There will be divine service twice every Sunday, and the ship carries a cow, a stewardess, and likewise an experienced surgeon." It is held by many that the position of ship's surgeon, as indicated by his association in this advertisement, has not improved up to this day. And yet one never hears of passenger steamers having any difficulty in securing incumbents for the position.

DR. A. C. LOVE died at his residence in Darrowville on the 29th of July, 1884, at 11 P.M., aged 32 years and 8 months. Dr. Love was one of the most reliable and prosperous physicians of his State. Bright, industrious, ambitious, faithful, energetic. His loss is a great one. The Sugar Planters' Association, the Knights of Honor, the Knights of Pythias, the School Directors and other Bodies passed just and handsome resolutions on the occasion of his death. He was well known to the editor of this JOURNAL as a pupil, and his record was always high and spotless. His family and friends will please accept his earnest sympathy in their bereavement.

THE New York Polyclinic, 214 and 216 East Thirty-fourth street, will be opened promptly September 22d. The school had 182 practitioners during its last session, the largest number ever known in any post-graduate school in this country. The faculty have bought the property formerly rented by them, and have had new clinic rooms and laboratories fitted out with every comfort and requirement. The money made is spent in increasing the facilities and in extending the usefulness of the school. It is an excellent and thorough institution and entirely worthy of the support and confidence of the Profession.

THE *Journal of the American Medical Association* contains, at the head of its editorial department, this curious and comic standing notice: "The editor of this journal would be glad to receive any items of general interest in regard to local events, or *matters that it is desirable to call to the attention of the profession.*" That the attention of the profession may be called to matters of interest is usual and possible enough, but that such matters can be "called to the attention of the profession" is something entirely new. How are the matters called?

POISONOUS POSTAL NOTES.—The yellow and green postal notes have proved to be so poisonous that the Government will issue no more of them, and has substituted non-poisonous paper. This fact explains why it is that so many subscribers were behind-hand in paying their subscriptions to this JOURNAL; they were afraid of poisoning the editor. Now, however, that the danger of such a calamity is over, it is hoped that the new postal notes we be duly sent forward. There is no poison in them.

SIR ERASMUS WILSON, LL.D., F.R.C.S., who died August 8th, was not only a distinguished dermatologist, but was equally celebrated as an anatomist. While "Gray's Anatomy" is deservedly popular for the great beauty and accuracy of its plates, the text cannot be compared with that of Wilson for fullness, descriptive triumph and accuracy. Wilson was, as is well known, a sincere philanthropist and accurate pathologist. He was born 1809. He had become very wealthy, and used his riches generously and judiciously.

A SILLY ASSERTION.—Dr. Romain J. Curtis, in the *Medical and Surgical Reporter*, says: "No one will or can gainsay that a preliminary education in science is a benefit to a man who enters a medical college, but I believe that a classical education is, if anything, an injury to him." The writer of such nonsense should remember what Fluellen says to Gower, in Henry V.: "By Cheshu, he is an ass as is in the 'orld."

THE CHOLERA.—Theatrical companies at Toulon and Marseilles have suffered severely from the consequences of this plague. Not only are the theatres closed in these places, but the players are unable to obtain engagements elsewhere, the managers in other towns being afraid to employ them for fear that the cholera bacilli may be imported in their clothes! Koch is now fairly before the footlights.

DR. JULIUS WISE has resigned the editorial management of the *St. Louis Weekly Medical Review.* Dr. Robert Luedeking is his successor. In his salutatory he says: "All in all, there is no reason why this journal should rank second to any of its older Eastern contemporaries." May he give it that rank, and show the accuracy of his opinion and prediction.

THE ATLANTA (GA.) SURGICAL INFIRMARY, for males and females, is now open, at No. 107 Marietta street, Atlanta, Ga., under the direction of J. McF. Gaston, M.D., with competent assistants and trained nurses. Dr. Gaston had in Brazil a similar institution, and will certainly command success in his new home. He deserves it very fully.

McDADE'S formula in syphilis seems to be a great failure. It is less inert with the negro, but with the white race it has disappointed almost all who read and remember the enthusiastic predictions of Sims.

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ORIGINAL ARTICLES.

ARTICLE I.—OBSTRUCTION OF THE GALL-DUCT AND ITS BAD CONSEQUENCES, WITH REMEDIAL OPERATION SUGGESTED. By J. McF. GASTON, M.D., Atlanta, Georgia.

Any interruption in the discharge of biliary matters, whether the cause may be spasmodic, organic or mechanical, brings serious trouble in its train. The entrance of a calculus into the bile-duct is manifested by grave disturbance of the nervous system, and phenomena are soon developed which indicate the sympathy of the whole organism with the local difficulty. At the outset rigors alternate with flushes of heat, followed by cold sweats and the most intense suffering.

The ordinary acute spasmodic paroxysms of pain in the right hypochondriac region, attended with the most distressing nausea and vomiting, are familiar to every practical observer of any experience. These results, from the passage of calculi of greater or less dimensions, are known as hepatic colic. If the transit of this mass of indurated bile along the common gall-duct from the gall-bladder into the duodenum is effected promptly, all the trouble passes without any serious consequences. Should, however, the resistance to the progress of the biliary calculus be great, and its delay in the canal be much protracted, constitutional disturbance is manifested, and local inflammation in the immediate proximity of the arrested body will be speedily developed.

If curative measures are resorted to early after the interruption to the flow of bile, there is a good prospect of evacuating the gall-bladder. A dilatation of the ductus choledochus may permit of the passage of gall-stones of the size of an ordinary plum-seed, and the results which have been reported recently under the olive oil treatment commend themselves to the favorable view of the profession at large. The tendency to form biliary concretions being presented, if one calculus is discharged others are proven to take its place after a time, and the local and general embarrassments continue. An obstruction to the gall-duct may result from the actual presence of calculi in the canal, or may ensue from infiltration of its walls, causing occlusion of the passage. When the impediment is simply mechanical in the outset, this by continuance becomes a source of irritation, and subsequently of inflammation in the tissues. Hence, there is never perhaps any protracted obstruction to the outlet of the bile without inducing some thickening of the walls of the duct, and, ultimately, agglutination of its adjacent surfaces.

When the obstruction has gone to the point of agglutination by the effusion of coagulable lymph, it will be found impracticable to combat the adhesive inflammation of the tissues, and the canal remains impermeable. When the ordinary channel becomes thus closed, it may occur that an artificial opening will be effected by an ulcerative process between the gall-bladder and the duodenum or the adjacent portion of the small intestine, thus remedying the difficulty temporarily, if not permanently. An outlet is afforded in this way to the biliary concretion or collections of fluid bile, and even sero-purulent discharges have taken place through such an ulcerated communication between these parts.

It has been ascertained that the closure of the material route of exit for the bile is followed by an inspissation or thickening of this fluid, and that eventually masses of bilious formation exist in the sac without assuming the character of a well-defined solid. Again, in the event of disorganization taking place there may be an exudation of a vitiated and decomposed fluid from the internal surface, or there may be a purulent accumulation within its cavity. Such collections lead to the destruction of its walls, and ultimately to their dilatation and extension below the margin of the liver, and, after the lapse of time, to the protrusion of the gall-bladder downwards into the lumbar region of the anterior portion of the right side of the abdomen. It presents under these circumstances an oblong, fluctuating tumor, extending down to the level of the umbilicus, or even into the right iliac region, with a breadth of from four to six inches, or even larger, according to the quantity of the fluid contained in the sac.

The retention of the bile for any considerable time without undergoing decomposition leads to its absorption into the circulation, and its diffusion generally through the system, so that jaundice is one of the ordinary accompaniments of biliary obstruction, but not a necessary or regular sequel of occlusion of the bile-duct. Should there be present in the cavity of the sac, in place of bile, some decomposed fluid or regularly formed pus, it is evident that no bile can be taken up by the absorbents, and as a natural consequence there would not be jaundice.

Should any one suppose that the analogy of bilious diffusion ought to lead to the dissemination of pus or other exudations, I would call their attention to the general law that holds in all suppurating cavities presenting a barrier in the peculiar modification of their internal surfaces against the absorption of their contents. Were not this pathological principle in force during the progress of suppuration in all parts of the body, there could not occur an abscess without purulent absorption, and, as a consequence, septicæmia. If decomposed fluids or pus are brought directly in contact with the areolar or cellular tissue, trouble ensues; but if retained within the cavities when formed, there is no contamination of the tissues. It has been noted as one of the almost invariable elements of bilious diffusion in the system, that itching over the surface develops with the obstruction, and is relieved with its disappearance. They may, perhaps, be considered as pathognomonic of the disorders. As a consequence of occlusion of the gall-duct, there is a want of bile in the intestinal canal, and the fecal evacuaitons are lighter-colored than natural, and owing to the absence of this stimulus to the peristaltic action of the bowels there is a torpid state of the alimentary canal. Even in an acute paroxysm of hepatic colic, when the interruption to the flow of the bile is only temporary, there is observed to exist a marked torpidity of the intestines, so that it is difficult to obtain the purgative effect of medicines when administered by the mouth. The use of enemata is more successful generally in such cases in evacuating the bowels, as their cathartic influence is brought to bear immediately upon their mucous surface.

The appropriate sphere of the bilious secretion is brought into operation after the gastric digestion is completed. The bile only becomes a proper admixture for the alimentary mass after it passes out of the stomach, and if from any cause there should occur even a very limited regurgitation of bile into that organ, it gives rise to disorder in the performance of its office for digestion.

The bilious matter, combined with the pancreatic juices in the duodenum, co-operates with it in modifying the diversified ingredients which enter into the homogeneous mass of the chyme, so as to fit it for restoring the waste elements of the decomposition in the materials subjected to the process of assimilation. After having effected the requisite changes in the alimentary mass, the presence of the refuse bile serves to promote the fecal discharges, by exciting the peristaltic movement of the bowels, and thus obviates the evils of constipation.

The lack of susceptibility of the upper portion of the canal to the action of purgatives is owing doubtless to the limited supply of bile to the duodenum, while the bilious discharge may be regarded in some sense as an excretion by its admixture with the fecal evacuations ; yet it is more properly held to be a secretion in its quality of combining with the alimentary mass and so modifying the ingesta as to fit the materials for nourishing the body. There is no doubt on the part of physiologists of its containing elements that are requisite for completing the digestion and assimilation processes.

The analysis of human bile affords the following results : Specific gravity, 1,022.14. Its ingredients are : Water, 86.42 ; solids, 17.38 ; inorganic, 1.388 ; organic, 9.992 ; bilirubin, 1.49 ; cholic acid, 1.819 ; glycocholate of soda, 2.329. Upon comparing this with the constituents of dog's bile it is found that the organic matter in the latter is about double that of a human subject, and that the quantity of cholic acid is ten times greater than in the bile of man. We may infer that this marked difference results from the more decided carnivorous habits of the canine species, and the greater proportion of inorganic elements in the human bile probably imparts to it a much greater tendency to the formation of concretions.

The knowledge obtained by observation and experiment in regard to the properties of the bile in promoting the proper nutrition of the organism, and in stimulating the peristaltic movements of the intestines, goes to corroborate the results of clinical experience as to its effects. Any material diminution of the quantity, or any considerable change in its quality from the normal standard, tends to produce derangement and depreciation of the assimilation process, so as to impair the alimentation of the entire organization.

The interruption of the nornal supply of bile may result from a deficient secretion or from arrest of the discharge in any part of its course. It may occur even in the small tubes which convey the bile from the various glandular ramifications of the liver.

We learn from the *Gaz. des Hop.* that M. Laborde sums up the results which have been obtained from physiological experiments in regard to hepatic colic as follows :

" *First.*—The excretory bile canals are endowed with a power of contraction; they are consequently able to contract spasmodically on the application of a stimulus, whether this be applied directly or indirectly. The contractility resembles that of unstriped muscular fibre, and the existence of such fibres in the walls of the canals is clearly shown by histology, and is in perfect harmony with the results obtained from experiment.

" *Second.*—The mucous membrane of these channels is exceedingly sensitive, and this occasionally manifests itself under the influence of more or less intense stimuli by painful symptoms, and by reflex phenomena, shown directly by spasms of the channels themselves.

" *Third.*—The phenomena are particularly induced by the presence and contact of foreign bodies, such as biliary calculi, whose spontaneous migration is thus rendered more difficult. These changes of place, when they occur, are only accomplished after a longer or shorter period, and they possess the peculiarity that the foreign bodies are always carried toward, and finally into the gall-bladder.

" *Fourth.*—Anæsthetic and anti-spasmodic medicines are best adapted for the treatment of this morbid state, of which the mechanical conditions can readily be realized by experiment.

" *Fifth.*—These remedies, more especially morphia, chloroform and hydrate of chloral, act by exercising at one and the same time an anæsthetic and paralyzing influence, which produces a relaxation of the spasmodic contraction, a destruction of the spasmodic canals, and an accumulation of the bile, which acts upon the foreign body by means of a *vis a tergo,* and forces it onwards toward the intestines.

" *Sixth.*—The combination of morphia with hydrate of chloral or with chloroform, *i. e.*, the simultaneous administration of those remedies, is the most effectual way of obtaining the required results, which are the insensibility of the biliary canals, the prevention of pain, and the favorable influence upon the migration and rapid extrusion of the extraneous substances."

The secretory function of the liver becomes interrupted in the course of chronic obstruction to the discharge of the bile by a sort of reactionary influence, which arrests more or less the production of this fluid.

It is observed, under such circumstances, that no fresh supply of bile is mixed with the long-standing accumulation of bilious matter in the gall-bladder.

There is, if we may so express it, a suspension of vitality in the hepatic organism, and a torpor of its delicate mechanism, so that it remains, as it were, a quiet looker-on at the troubles which ensue to other parts of its functions. Under such conditions the liver ceases to generate bile, and there is no pain, swelling or indication of the organ which could indicate an inflammatory state. Yet it is not alone this torpor which occurs in connection with retention of the bile, as other and graver complications are frequently present with it. The intimate structure of the entire organ undergoes a very marked change, and yet the size and general configuration of the liver does not always differ materially from what is observed ordinarily in health.

The present inquiry being confined to the atonic condition which results from inaction, and which occurs independent of any idiopathic derangement of the secretory functions, I may ask attention to the analogy afforded by the suspension of action in other organs, and the consequent loss of capacity for the performance of their respective parts in the rôles of the animal economy. Numerous instances of physiological disability will be recalled by those who are familiar with the history of suspended activity, and they serve to illustrate the effect of obstruction of the gall-duct in the case under consideration. The product of hepatic action is not utilized, and the organ ceases to perform its office in secretion of the bile.

This is not the place to enter upon the details of hepatic torpor. My task at present is confined to some points connected with the special train of troubles growing out of temporary or permanent occlusions of the gall-bladder. I have had occasion to make latterly two post-mortem examinations in cases of complete occlusion of the bile duct, the full records of which cannot be now reproduced.

In general terms, it may be stated that one of the patients was a middle-aged man, of most active habits, who had come from the United States to Brazil some ten years previously. He had occasionally been troubled with hepatic derangement prior to his fatal sickness, but there was no serious disorder on these occasions. Being under the care of another physician in the early period of this illness, I found him suffering severely with all the concomitants of biliary obstruction, including absence of bile in the evacuations, with jaundice, itching over the surface, and tenderness over a fixed point a little to the right and below the ensiform cartilage. There was also a peculiar and very persistent pain in his right arm. After being under a course of treatment for some time with little effect, there was a somewhat sudden improvement in all the symptoms, with a change in the character of the evacuations, accompanied with a number of gall-stones. Some of these were of a size that caused me to suspect an ulcerated communication of the gall-bladder with the upper portion of the alimentary canal. There was immediate relief to all of his sufferings, with gradual restoration of the natural bilious aspect of the fecal evacuations, and the slow decline of the icteric hue from the eyes and the general surface. Being comparatively free from trouble, and having gained some strength with the return of appetite, he went back to the country and took charge of the plantation of which he was the superintendent. But he came to me again some weeks afterwards with aggravations of a most serious nature, and died in a few days. The autopsy revealed ulcerations connecting the gall-bladder with that part of the intestines adjacent to the duodenum, and an opening through the diaphragm into the lungs, with which firm adhesions existed. The ductus choledochus was completely closed, and its walls engrossed and hardened. The collection of disorganized bile and serous exudations, which was doubtless originally confined in the dilated sac of the gall-bladder, had made its way into a cavity formed between the upper surface of the liver and the lower surface of the diaphragm, and extended through the aperture into the pulmonary structure. The patient had expectorated this offensive matter in great abundance, and its flow into the bronchial tubes seemed to be the immediate cause of death.

The other post-mortem examination was in the person of a middle-aged Swedish woman, to whom I had been called on the day previous to the fatal result of her disease. A tumor extending below the line of the umbilicus from beneath the ribs on the right side, and the breadth of my hand, gave indications of fluctuation, and I took a colleague to assist me in determining upon the feasibility of the removal of the fluid by aspiration. But her forces were so much exhausted that we concluded not to precipitate the inevitably fatal result, and she died next morning. The patient had been confined to bed for three months with jaundice, and the surface was still of a dingy yellow or brownish hue. It was found upon the autopsic investigation that the sac forming the tumor was the relaxed and distended gall-bladder, which was filled with a semi-fluid dark brown collection of inspissated bile, in which there existed several concretions of different sizes and offering but little resistance to compression. The entire tract of the ductus choledochus was obliterated with thickening and hardening of the tissues. At what had been the cystic orifice of the canal there was a very considerable dilatation, containing a biliary concretion which was closed in on all sides by a membranous formation, into which an incision was made for its removal.

A third fatal case of biliary obstruction has been recently under observation. Being called in consultation by a medical friend, in whose care the patient had been under treatment for some weeks, he gave me the well-defined history of occlusion of the bile-duct. There was present still a characteristic icteric discoloration of the entire surface, with the yellow tinge of the conjunctiva, and a tremor imparting a sense of fluctuation extended below the ribs in the right hypochondriac and epigastric regions. Unfortunately, no opportunity was afforded for making a post-mortem examination, yet there could be no doubt in regard to the complete occlusion of the gall-duct being the source of trouble in the case, and the cause of death. There occurred during the few last days of my attendance irregular paroxysms resembling those of a malignant fever, doubtless from blood poisoning.

A case of occlusion of the bile-duct, having many points of interest, has been under treatment for several months, and remains in my charge at present. The patient is an American woman, seventy-four years old, who led an active life until within the last twelve months, and had enjoyed a fair measure of health and strength.

When my attention was first called to this case there was general debility, accompanied with icteric discoloration of the surface and eyes, as likewise torpor of the bowels, and deficient coloring matter in the evacuations.

Considering it, then, as a case of jaundice, dependent upon a temporary interruption of the biliary secretion, the following prescription was made: Compound extract of colocynth and blue mass, each ½ drachm; podophyllin, 3 grains; made into twelve pills, of which two were taken night and morning. They acted moderately as a purgative, and were continued for a week without notable sign of change in the discoloration. This was followed by an infusion of gentian with bicarbonate of soda, which was used for two weeks, and yet no material alteration. Finding the strength of my patient less than at the outset, and that a tonic was indicated, I prescribed the following: Muriated tincture of iron, ½ ounce; spirits of turpentine, 2 drachms; tincture of nux vomica, 1 drachm; simple syrup, 2 ounces; of which a teaspoonful was taken every three hours during the day, and it was kept up for some ten days.

At the expiration of this period, observing that there was no improvement in the jaundice, and that the intestinal torpidity continued, she was ordered the following pills: Calomel, aloes, jalap and extract of rhubarb, each 1 grain; podophyllin, ¼ grain; of which three were taken every morning. They acted as a cathartic, and after a few days were only given occasionally to secure proper evacuations of the intestinal canal.

At this time it was stated, for the first time, that there was general itching over the surface, though it had been present previously without becoming noticeable. My attention being again directed to the patient, a hard mass about the size of a kidney was discovered in the anterior right lumbar region, and it might have been mistaken for a floating kidney if further examination had not revealed that it was within a sac of an oblong shape, that extended up under the ribs. There was a well-defined unoccupied space between the upper border of this indurated mass and the lower margin of the ribs, and by thrusting the fingers below and drawing upwards, this body could be carried up to the line of the ribs, moving readily within the sac. That portion of the tumor not occupied by this body gave the sensation of a semi-fluid collection, and though the evidence of fluctuation was not very distinct, I was convinced that it was inspissated bile, while the kidney-shaped mass was a concretion from the same. My diagnosis was, therefore, obstruction of the bile-duct, with dilatation of the gall-bladder, containing a considerable quantity of semi-fluid bile and this larger biliary concretion.

Reiterated and careful manipulations confirmed this view of the case, and from the entire absence of the coloring matter of the bile in the fecal evacuations, with the torpidity of the intestinal canal, it was inferred that the occlusion was complete, and that no operative procedure could accomplish a satisfactory result, though the subject manifested a willingness to have the tumor opened and the foreign body removed. Her age likewise militated against the operation, and my measures were addressed to a palliation of the constant acidity and atony of the stomach, with a tonic course to relieve the general debility, which was now a prominent feature of the case.

She was directed to use constantly the mixture of infusion of gentian, 10 ounces; aqueous tincture of rhubarb, 2 ounces; tincture of nux vomica, 1 drachm, and bicarbonate of soda, 1 drachm; the dose being half a wineglass every three hours. After continuing this for some weeks it failed to act as a laxative, and the discomforts of every kind being increased, with a very marked febrile excitement, and acute sensitiveness over the epigastric region, it became necessary to resort to some other means of giving at least temporary relief.

Having observed the reports in regard to the use of olive oil in cases of hepatic colic, with the result of dislodging gall-stones, it was thought that, if it did no good, it could do her no harm to try the experiment of a full dose of the oil. I confess that nothing further was expected from it than its laxative effect in relieving the then existing constipation of the bowels. She took a teacupful of the sweet oil, such as is used for the table, at intervals of three hours, until three were taken, when her stomach refused to accept any more. In the course of the same night she had free evacuations of a dark grumous matter, which continued for twenty-four hours with greater or less intervals. After the first discharges there was very little of the characteristic fecal odor with the evacuation, but a disagreeable smell (which was *sui generis*) accompanied the dejection of the semi-fluid matter that passed, and which had been previously retained within. In the meantime the tumor extending below the ribs on the right side diminished, and the hard mass already described receded upwards to the margin of the ribs. The pain and sensitiveness in the epigastrium ceased, but in the course of a week the darkish discharges disappeared, and eventually there was no further action of the bowels. The patient again became uncomfortable, and the olive oil was repeated with a good result in producing discharges resembling the former matter, but less in quantity, which recurred at intervals subsequently.

Her appetite now returned so that she ate indiscriminately of such vegetables and other articles as she desired without any indications of indigestion, and eventually there seemed to be a restoration of the proper bilious secretion to the evacuations. During this improvement in other respects the itching over the surface was not felt any longer, but there was a very slight diminution of the intensity in the yellowness of the skin and the eyes.

There was no appearance of biliary calculi in the discharges from the bowels, either under the direct influence of the olive oil or subsequently; but there were evidently present in the evacuations the retained secretions and the former contents of the distended gall-bladder.

The channel by which the inspissated bile found its way from its receptacle into the intestinal canal could not have been by any dilatation of the natural outlet, but must have been the result of ulceration, as the circuitous general symptoms indicate, which caused a communication of the gall-bladder with the upper part of the small intestine, adjacent doubtless to the duodenum. This opening, having closed after the first discharges, reopened with the repetition of the oil, and has continued as an outlet for the bile.

The relief afforded in other respects has not been attended with a corresponding change in the icteric hue, and this may perhaps be explained by the fact that a large mass of biliary concretion remains in the sac, and that more or less accumulation of bile remains along with this body, thus affording the conditions of absorption which keep up the jaundice.

The bile does not escape entirely by the artificial orifice, and, like the overplus of urine in a relaxed state of the bladder, there is perhaps some gradual accumulation in the paralyzed sac which was recently so much distended. I feel no assurance of the ultimate restoration of the normal function of the gall-bladder while so large a mass of biliary concretion remains in its cavity, and though the patient has gone to the country, hoping for a re-establishment of health, I think it most probable that she will fail to realize any permanent benefit.

Still another case has been treated having all the indications of obstruction of the bile-duct with hepatic colic and jaundice.

My attention was first called some two years ago to this gentleman, who is a German by birth, but spent his early manhood in the United States, and has resided in Brazil for the past twelve years. He was then suffering with derangement of the stomach, connected with biliary disorder, and habitually constipated, without proper color in his fecal evacuations. Jaundice was an accompaniment of his other serious troubles, and energetic measures were required for his relief. Yet he subsequently seemed to be re-established in health, until the return of similar disturbance in his hepatic functions at the close of the first year. I was called anew to see him on December 17th, 1880, and prescribed comp. ex. of colocynth, blue mass and podophyllin, in purgative doses daily for four days. But, noting that the torpidity of the liver continued, on the 22nd, I ordered the capsules of spirits of turpentine of Clertau, of which two were taken four times a day. On the 26th of the same month I was summoned to attend him with an aggravation of all the symptoms, and marked increase of the icteric hue of the skin and eyes. Calomel and quinine, each 18 grains, divided into three portions, were given every three hours, and followed by a purge of magnesia and rhubarb on the next day. On the 28th, found my patient writhing with the pain of an hepatic colic, when I gave 12 grains of calomel every two hours until 36 grains were taken, and within two hours after the last he took four tablespoonfuls of castor oil with one of spirits of turpentine. This failing to act upon the bowels, he was given enemata of castor oil with lac assafœtida and warm water repeatedly, until evacuations of fecal matter were secured. In the meantime stupes of turpentine and camphor, with flannel wrung out of hot water, had been diligently applied over the abdomen. After the discharges began this was substituted with fomentation by belladonna ointment, and as soon as the biliary secretion made its appearance there was a mitigation of all his sufferings. On the 30th there was some febrile excitement, with considerable tympanic distention of the abdomen, and tenderness over the epigastric region. The Carlsbad salt was given in teaspoonful doses every three hours, and a liniment of spirits of turpentine and camphorated oil was kept constantly over the entire abdominal surface with a flannel roller, giving a moderate support around this part of the body. The acute symptoms being materially modified, on the 1st of January, 1881, he was ordered a mixture, which has proved useful in all relaxations of the alimentary canal in which a tonic effect generally is desired. This formula, already given for gentian, rhubarb, nux vomica and bicarbonate of soda, was kept up for more than two weeks, with relief to most of his troubles. In the meantime he, being a person of much energy, insisted on looking after his outdoor duties, and was ordered the elegant preparation known as quinium Labarraque, to be taken four times a day in portions of half a wineglass, which was continued from the 16th to the 27th of January, 1881. This was then changed for a decoction of cinchona bark, with sulphuric acid and tincture of nux vomica, during the daytime. As he was restless at night, I prescribed the syrup of chloral of Follet to be taken in tablespoonful doses, with intervals of an hour until three should be taken, at night. But the usual soporfic influences of this soothing medicine was not satisfactorily manifested on this occasion, and after a few nights it was discontinued. The jaundice had disappeared; but my patient was annoyed very much with indigestion and irregularity of the bowels, being at times inactive, and on other occasions passing off what seemed to be bilious matter, that assumed a periodic character on every morning before daylight. Accordingly, on the 12th of February the following was prescribed: Sulphate of quinine, 36 grains; camphor, in powder, 12 grains; extract of belladonna, 3 grains; con. of roses, q.s. to make 12 pills, of which two were taken every two hours. This appeared to be attended with some benefit, so that I was encouraged to persist in this course, and adopted one of my favorite tonics February 21st, 1881: Sulphate of quinine, 36 grains; sulphate of iron (pure) 1 drachm; sulphate of strychnine, 1 grain; sulphuric acid (conct.) 1 drachm; distilled water, 1 pint. Mix and take a tablespoonful every three hours. Finding that a periodic febrile paroxysm appeared in the afternoon daily, Fowler's solution of arsenic was added to the above on the 2nd of March, and given constantly for some days.

March 12th, 1881. The patient having little appetite, and the food taken becoming uncomfortable, with acid eructations and occasional vomiting, I used the nitrate of silver with opium, each three grains made into 18 pills, giving one every three hours until six were taken daily. But observing little or no advantage from this course, I resorted to subnitrate of bismuth, prepared chalk, cinnamon water, syrup of opium and mucilage of gum arabic, with better results in allaying the disturbances of the alimentary canal. March 20th, it was perceived that there was a constant acceleration of the pulse, exceeding a hundred to the minute, with nervous irritability, and the infusion of digitalis with bromide of potash was taken for more than a week without relief. April 1st, 1884, as a corroborant and alterative I had recourse to the nitro-muriatic acid, and while the general tone of the digestive apparatus was improved, there was no diminution of the frequency of the pulsation. This patient gave no signs of organic heart disease, and with the continued gastric and intestinal trouble, associated with more or less tenderness over the epigastrium, along with nervous excitability and acceleration of the pulse, dating from the period of the attack of hepatic colic, it is perhaps a legitimate inference that the structural changes initiated then had progressed with ulceration in such form as to account for the whole train of disorders. The rest and quiet of a sea voyage, for it was known in advance that he did not suffer from sea-sickness, was advised by me as most conducive to a subsidence of any inflammatory process which had existed, and the result has confirmed my anticipations. If the jaundice had been present at the outset, and given way shortly after the return of the bilious matter to the evacuations, it might be supposed that there was an error in diagnosing obstruction of the gall-duct, with abnormal cysto-intestinal communication. It must be concluded by all who are aware of the necessity of bilious matter to the proper performance of the processes of chymification and chylefaction in the upper part of the alimentary canal, that a permanent obliteration of the communication of the gall-bladder with the small intestine is incompatible with health, if not inconsistent with the continuance of life. The prime consideration for the pathologist is whether any considerable collection of fluid ever occurs in the gall-bladder without occlusion of the gall-duct, and the question of paramount importance for the surgeon is the practicability of restoring the flow of bile into the duodenum or the adjacent portion of the intestinal canal by the natural or an artificial communication. A fistulous external discharge may have carried off the vitiated contents of the sac, and thus given temporary relief to the patient; or an operation may be undertaken for the removal of the offending matter, yet the study of this very grave complication is in its infancy, and the heroic measures which are requisite should be regulated with discretion.

With the lights before us it is clear that an effort should be made to overcome the serious difficulties in the way, and if the operation of cholecystotomy is ever to be crowned with a success it should be resorted to while the patient has sufficient strength to rally from the shock of such a procedure, and can outlive the depreciation of all the vital functions which results from the interruption of the supply of bile. That an operation for the removal of foreign bodies from the gall-bladder through an opening in the abdominal wall should have been suggested by Petit, Thudicum, Manndor and Hughlings Jackson amounts to nothing practically, as there is no evidence that any of them put it into execution.

The idea of Handfield Jones, to push the gall-stone into the intestine by manipulation only and without opening the gall-bladder, reminds one of the famous receipt for dressing a hare—first catch the hare. And it would doubtless become equally important in the above cases to discover the said canal, before pushing the hardened mass into it, the duct being closed. In the notice we have of Bartholow's aspiration of the gall-bladder and the subsequent death of the patient, there is no intimation of the state of the bile-duct. Although he has proposed the use of a probe for exploring this canal, and claims that this operation is practicable, no details are given as to the proceeding in any given case.

Brown's report of discovering gall-stones by the probe and after making an incision of two and a half inches without being able to reach the gall-bladder, and closing up the wound seems to be very ineffectual. Yet "in the night bile began to be discharged, the tumor disappeared, and she recovered without a fistula." All will be prompted to ask what became of the biliary calculi that remained behind?—Were they discharged through the duct into the duodenum, and did they make their exit *per vias naturales?*

In the case given recently by Bryant, it is evident that the large biliary calculus was the source of trouble and caused the suppuration. This being removed, and the discharge continuing for some months externally, while the bile duct still performed its office as an internal drainage tube, the external parts gradually healed, and the normal relations soon became established.

Viewing cholecystotomy as an effort to establish a fistulous discharge externally, by which the bile shall be directed from its appropriate channel, and thus prevented from filling the *role* which normally pertains to it, it becomes us to inquire whether there is any guarantee of final and complete recovery, with the interruption of a supply of the bilious secretion to the alimentary canal, as occurs in the proposed diversion.

An interesting account of a case is given by Mr. Frank E. Artaud in the June number of the *New Orleans Medical and Surgical Journal*, 1881, entitled "Acute hepatitis, resulting from the presence of biliary calculi found in the parenchymatous structure of the right lobe of the liver." The author states that "palpation enabled me to deduce conclusively that the right lobe of the liver was by far larger than normally."

Noting the fact that the liver ordinarily does not extend below the margin of the ribs in the right hypochondrium, we should not overlook that, "furthermore, anteriorly an elevation resembling the under surface of an ordinary saucer was present, exceedingly prominent and exceedingly circumscribed, measuring three inches in diameter; its position was as follows, viz.: the upper edge was two inches and a half below the costal cartilage of the seventh rib, whilst the lower bordered upon the right lumbar region." The operator made an incision from left to right transversely, from two to three inches in length just half an inch above the one he had made with the lancet, and four inches from the linea alba; also two inches below the costal cartilage of the seventh rib.

The apparent inconsistency of incising a tumor, whose upper border was two and a half inches below the margin of the ribs, within two inches of this line, may be explained by the supposition of a change in the location of the abscess; yet, he had introduced previously an exploring needle in the centre of the elevation, from which was drawn some pus mixed with blood; and this point must have been, according to measurements given, at least four inches below the margin of the ribs. This discrepancy in the statements leads us to conclude that there is an element of doubt in the description of the operation, and that there may be misapprehension as to the nature of the tissues referred to in the following statements: "Having divided the several structures, I found that an adhesion had taken place between the hepatic and parietal peritoneum; I introduced my fingers, and following the path which my instrument had pursued, as a matter of course enlarging it, I at length felt a cluster of calculi firmly imbedded in these cavities, and the contiguous tissues strongly bound down upon them. By means of a probe-pointed bistoury and forceps, I succeeded in extracting fifteen of these calculi in the space of two hours. Their size varied from one-eighth to one-quarter of an inch in diameter, polygonal in shape, of a brownish-yellow color, friable and floating in water."

This operation being on the 22d of December, 1880, he states that on "December 24th I thought it prudent to search for more calculi, and shortly extracted five more, the fifth having larger dimensions than those heretofore extracted. December 26th: Wound once more explored and seven more calculi extracted, alike in size to the others. December 27th: Wound again explored, and no calculi to be found. December 28th: Appetite good, assimilation of food apparently taking place, stool containing a normal quantity of bile." It should have been noted that attention was drawn to the absence of the bilious secretion in the evacuations in the early history of the case. It is notable that during the whole period of observation, before and after the operation, there was not an elevation of a single degree of temperature, nor exceleration in the pulse, and the author calls attention to the fact that jaundice was not connected with the case.

I have no disposition to forstall the judgment of the medical profession in regard to the nature of this case, and the author must allow that a correct impression of his instructive narrative is herein presented. Yet I beg leave to differ with him when he says: "But taking into consideration the symptoms and course of the case, which I have had in close observation, I can safely assume that there was no analogy to those cases in which the gall-bladder has been the seat of disease." Those who have had most experience in the dilatation of the gall-bladder from the contained purulent collection, and have observed the descent of the tumors formed by the distended sac, will detect in the description of the saucer-shaped projection below the ribs on the right side the well-defined characters of such a tumor. I am fully satisfied, likewise, that such extensive suppuration, implicating the glandular structure of the liver, could not be so entirely free from constitutional excitement as was reported in this case.

Surgeons and pathologists, whose attention may be attracted to this case, should note carefully the position of the tumors and the proceedings instituted, so as to form an opinion upon the merits of the diagnosis made. There is a strange omission of any authorized judgment by a competent surgeon in regard to its nature, and with the able staff of medical officers connected with the University of Louisiana and the Charity Hospital, it seems most remarkable that no intimation should be given of the views taken by some one of them. We are only informed that in February, after the patient was relieved of all trouble, "with Prof. Bemiss' consent, the patient was brought before the medical class and lectured upon in the amphitheatre of the Charity Hospital by the above-named gentleman."

The case is in many respects a remarkable one, and not the least so in the subjective phenomena, as absence of the bile in the intestinal discharges and want of the icteric hue of the surface, along with the speedy restoration of bilious matter to the fecal evacuations after the operations had produced their legitimate good effects.

The adhesions between the sinous tissues reported seem to suggest that in cases which are connected with the distension of the gall-bladder, when the tumor is prominent below the border of the ribs on the right side, the operator should first seek to bring about an artificial union of the lining membranes at the space where the incision is indicated. Thudicum has inculcated the opening of the abdominal wall and securing the sac to the margins of the opening to effect their adhesion, but perhaps the two serous membranes could be stitched together without this opening.

In the July number of the *American Journal of Medical Sciences* for 1881 appears the record of a case having some points of correspondence with that which has just passed under review; yet it differs materially in the concomitants developed as to general symptoms, and in the absence of biliary calculi. It is reported by Walter Mendelsen, M.D., house physician to the New York Hospital, as "a case of abscess of the liver complicated with empyema."

Preliminary to any comment upon the nature and origin of the trouble, attention is asked to the following summary of the points presented: When the woman entered the hospital on October 9th there was enlargement of the liver, and on the 10th it was *supposed* that pus was taken from the right pleural cavity. But I would note a statement that "the upper border of the liver was at the sixth intercostal space," and that "the largest needle, No. 4 of Dieulefoy's aspirator, was inserted twice; first in the eighth and then in the ninth intercostal space," and "each time only a drachm of very thick pus was drawn." I leave the intelligent reader to determine its source.

On October 16th a slight swelling in the right hypochondrium, just above and to the right of the umbilicus, was perceived for the first time, which by the 19th was as large as a goose's egg. On November 2nd the patient expectorated large quantities of purulent material, and on the 5th the tumor in the epigastrium was nearly imperceptible and quite soft to the touch. On the 18th the tumor was noticed to have reappeared, and fluctuation was very evident. At this time "the expectorations had an orange-yellow color, as if tinged with bile," so that it was inferred that the pus in the thoracic cavity communicated with the liver, and the reporter says that "it would be hard to explain the subsidence of the tumor, except by supposing that it had discharged into the pleural cavity."

On November 22d the tumor had increased considerably in size, its growth having taken place mainly to the left of the umbilicus. The patient's breath was horribly offensive, having the same odor as her expectoration. As the abscess showed decided signs of pointing, it was determined to operate. At 9 A.M. the pulse was 112, respiration 36, and temperature 101.8°. The patient being etherized, at 11 A.M. an incision one and a quarter inches in length was made just above, and one inch to the right of the umbilicus, in the softest part of the tumor. After a rather superficial cut the pus was reached and poured out in great quantities, about a pint or more discharging in a few minutes. The pus was thick, viscid, sanious and clotted. It was mixed with portions of bright yellow pus and shreds of broken-down tissue. It was entirely free from odor.

"The cavity was washed out with a solution of carbolic acid (1 to 40 of water), and on introducing a finger through the wound, the abscess was found to consist of two portions: one the main cavity, lying to the right of the median line, and having the size of a very large orange; the other a smaller one about the size of a pigeon's egg, just to the left of the median line; the two being freely connected by a canal running transversely under the *linea alba.* The liver tissue could be felt projecting into the cavity in hard nodulated masses, covered with a pulpy material which was easily scraped away with the finger. It was impossible to touch the bottom of the abscess with the finger, but a probe could be introduced for about four inches in a direction backwards, upwards and outwards." The reader must divine what is meant in this last word, considering the position of the incision. Referring to the examination of the pus by the pathologist of the hospital, it is stated significantly: "Nothing that could be distinctly identified as liver cells was found."

After the immediate perturbation of the operation had passed, he found at 10.30 P.M., pulse 120, respirations 34, temperature 96.6°.

"Dec. 27.—The lower border of the liver was still at the umbilicus, being bound down by adhesions." It is notable that "at no time during her illness had she been jaundiced."

With a proper appreciation of the data appended by the author, let us hear a few words in regard to the tumor: "On its first appearance various theories relating to its nature were advanced. It seemed in the beginning as though it might be the gall-bladder, for it was in the place where this organ appears when distended, and was soft and globular. Careful exploration, however, revealed the sharp edge of the liver below the tumor, a condition which of course could not exist had it been the gall-bladder. As the edges became more indurated, it was supposed to be an abscess in the abdominal walls, the result of the pus from the empyema making its way downward; for, be it observed here, there was no suspicion of hepatic abscess when the woman was admitted, and all her trouble was referred to her empyema. From the first the hepatic origin of the abscess had been strongly advocated in view of the enlargement of the liver, and the mould-like edge of the tumor, caused probably by the adhesions formed between the liver and the abdominal walls."

The contradictory statements in the above paragraph, that "there was no suspicion of hepatic abscess when the woman was admitted," and "from the first the hepatic origin of the abscess had been strongly advocated," may perhaps be reconciled by supposing that the first referred to the impression prior to any examination. But then, how could it be known that the empyema existed at that time?

The internal evidence of inexactness in the use of terms, not to say confusion of ideas, is patent in many parts of this record. Though my space has not allowed me to follow the report in detail, I have presented the salient points, without any intention to change its purport, and for the most part giving the phraseology of the author.

The experienced reader will doubtless have perceived that all is not quite so clear as it should be in the history of the case, as there is no reference to the fecal evacuations, so that we are uninformed in regard to the presence or the absence of bile in the discharges from the bowels. In view of the avowedly doubtful nature of the case up to a certain period, it might have occurred to the house physician to make some observation of a matter so essential to determining the implication of the gall-bladder in this suppuration. In an important surgical case, as this must be regarded by all thinking men, it was much to be desired that the medical profession should have had all the light available for a proper diagnosis. If the veteran Markoe had been consulted, and his opinion reported as to the distinguishing features of the case, it would have enabled medical men to decide upon the merits of many points which are left in obscurity by the off-hand mode in which they are disposed of by the reporters. As for instance, he says, in a matter-of-fact style: "When the tumor was incised, and after evacuating its contents, the finger was introduced into the cavity, of course no more doubt regarding its nature remained."

If the authorized judgment of such a man as Hammond, who has frequently aspirated abscesses of the glandular structure of the liver, could be had upon the origin of the pus in this case, it would not appear quite so plain that it came from the substance of the organ.

For my part, I am compelled to dissent from the foregone conclusion of the author as to the tissues implicated, and unless I could put my finger in that hole, to the bottom of which his could not reach, there must be a doubt as to the correctness of his observations. Autopsic investigation has demonstrated that extensive collections of sero-purulent matter, or of regularly formed pus, are found in the dilated sac of the gall-bladder, occupying the position in which this tumor was found; and, further, that these fluids may traverse the diaphragm by an ulcerative process, or extend around and above the liver, so as to be between it and that muscular partition of the abdominal from the thoracic viscus. The inflammation thus set up induces adhesions between the investing membrane of the lungs and that lining the cavity of the thorax, so an opening may be effected directly into the pulmonary structure, and thence the matter may be expectorated, as in this case.

Any student of the facts presented in those cases reported by Mr. Artaud and Dr. Mendelsen will no doubt discover that one of the essentials of retention of the bile, consisting in the icteric discoloration, has been absent; and it may not have been remembered that obstruction of the ductus choledochus, with a purulent collection in the gall-bladder, should not be attended with jaundice. The presence of bile confined in the sac is a requisite for its absorption and diffusion by the circulation, and if instead of bile there exists pus, jaundice should not occur, as, in fact, it has not been found in either of these cases. Viewed from this standpoint, I am inclined to consider both of these abscesses as proceeding from obstruction of the bile-duct, and hence as included properly under the head of which this paper treats. It is, however, claimed that these tumors did not implicate the proper parenchymatous structure of the organ, but were purulent collections in the gall-bladder, which being discharged afforded relief. In the case of Artaud there was noted a restriction of bilious matter in the evacuations, and, unfortunately, in that of Mendelsen nothing is communicated touching this point, either before or after the operation.

Neither of the cases had been under observation for a sufficient time to determine the final result upon the health of the patients. It is a remarkable coincidence that these two important surgical cases should have been operated upon on the same day of the same year, the 22d of December, 1880, and that they should have each progressed so favorably as to be dismissed from any special supervision within a week afterwards. Let the seat of either be as it may, the operations were successful.

The three cases described by Morgagni, all of whom had tumors in the epigastrium which were opened either by art or spontaneously, discharging cystic calculi at the aperture, need authentication. If the statement that the first was cured, the second recovered with a fistula, and the third with an ulcer, can be relied on as true, they go very far towards establishing the results obtained in the cases of Bryant, Mendelsen and Artaud, and we may take them as a corroboration of the fact that the suppuration within the gall-bladder, from the presence of gall-stones or without them, is not incompatible with preservation of an outlet by the gall-duct.

It is not improbable that, though a stoppage of the gall-duct may occur temporarily from inflammation of its walls, there may not be adhesion, and with the subsidence of the swelling and turgescence of the tissues by the evacuation of the contents of the sac, the tract of the canal may be restored. The radical procedures instituted by Sims and by Keen for dropsy of the gall-bladder are types of the operation styled cholecystotomy, and their untoward results only hastened the termination of sufferings which were destined ere long to wear out the little remaining strength of the patients.

The extensive collection in the distended gall-bladder removed by the operation of Keen was not connected in any way with biliary concretions, as no gall-stones were present. It is much to be regretted that the post-mortem examination did not reveal the state of the ductus choledochus, as the verification of the closure of the duct must be regarded as of great moment in the history of this class of cases.

In the case reported by Sims a most unexpected revelation is made in the details of the autopsy made by M. Ganal, which leads one to suppose that complete obstruction of the ductus choledochus had not at any time existed in this patient. In the full, and for the most part satisfactory, account of the case operated upon by Sims it is stated, in the observations made after death, that "M. Ganal then passed a director into the gall-bladder, through the external fistulous opening, showing the continuity of the two. After satisfying himself that the operation had been successful in this respect, he cut the gall-bladder loose from the parietes of the abdomen, and then introduced his hand into it and removed sixteen gall-stones, from the size of a pea to that of a pigeon's egg. They were all sacculated, and this was the reason that they were not removed at the time of the operation. He then removed the gall-bladder entire; it was very large, and its walls were much thickened. After doing this he was able to pass a probe from the gall-bladder through the ductus communis choledochus into the duodenum."

It is a serious omission in the statement of such an important point, that nothing should be said in regard to the calibre of this canal and the state of its walls. Should the bile-duct have previously allowed a free communication with the duodenum, it seems quite unaccountable how the twenty-four or twenty-six ounces of dark-brown fluid withdrawn at the time of the operation should have remained in the cavity of the gall-bladder without escaping into the intestines.

If, however, the opening in the canal was so constricted as barely to allow the passage of an exploring probe, it might very well have prevented the escape of a rather consistent fluid from the cavity of this sac. But why was it kept confined earlier, when the fluid must have been thinner and should have escaped at an outlet which admitted the probe. That gall-stones form in the gall-bladder with an open duct for the partial outlet of bile does not prove that any considerable collection of fluid would remain while there existed an opening for it to flow out by the duct.

If this examination and the manipulation with the probe had been made by Dr. Sims in person, I should not have a doubt of its correctness in every point. But when it is stated that M. Ganal, thinking he had cut through the peritonæum, began to separate it from the abdominal parietes, saying, "Here is peritonitis with adhesion everywhere," and that Dr. Sims told him "to open the peritonæum, which he did, and found that there was not the slightest evidence of peritonitis," it leaves us in doubt as to whether his probe might not have been thrust through the softened tissues of an occluded duct.

It will be seen that this matter should be understood in its bearings upon the end contemplated in this operation for relieving the sac by an external fistulous opening.

In a paper by Mr. Lawson Tait, in the *British Medical Journal* of May 8th, 1884, the following remarkable statement is made: "The conclusion of the surgical experience in these cases is, that the entire possibilities of the treatment of gall-stones and distended gall-bladder are exhausted in Dr. Marion Sims' original paper published in this journal, that no further extension of it seems possible, and that no further experimentation such as that of Wells and Langenbach seems desirable." This is passing strange.

While the proposition made by Langenbach for the removal of the gall-bladder is, in the words of Tait, "intrinsically absurd," it is by no means so clear that the proposal made by Sir Spencer Wells "to open the gall-bladder, remove the calculi, and to close it by a continuous suture, without attaching it to the abdominal wound," may not be advantageous if it be followed by a subsequent operation for affording a direct outlet of its contents into the intestinal canal. What he and others have failed to undertake I have now to suggest.

In reporting subsequently the crushing of a gall-stone in the duct with the forceps, Mr. Lawson Tait departs from the masterly inactivity which his previous teaching would inculcate; and we should not be surprised if the return of the normal color to the patient's motions indicated relief to the obstruction, so that his proposed closure of the fistula should be attended with the most salutary results.

The attitude assumed by this distinguished surgeon in the *British Medical Journal* of May 3d differs so entirely from the publication in the same journal of July 12th, 1884, that we look with great interest for the report of his closure of the fistula in this case. And he was so considerate in undertaking to crush the stone *in situ*, by means of padded forceps applied outside of the duct, as to say that if a better plan should occur to any of his readers he would be glad to hear it; so it is hoped I shall have full credit for my suggestions.

The entrance of the bile into the upper division of the intestinal canal being essential to health, if not to life, is there any assurance, when the bile-duct becomes obliterated, that an artificial communication by catheterization or by puncture can be effected, to convey the contents of the gall-bladder into the alimentary canal? This is a requisite for the favorable issue of any operation looking to an outward discharge of the contents of the sac in dropsy of the gall-bladder, and unless this point can be resolved satisfactorily, surgeons will be under the dire necessity of abandoning the subjects of occlusion of the bile-duct to their sad fatality, rather than become the active instruments of precipitating such a calamity.

The surgical proceeding which is indicated for dropsy of the gall-bladder, as distinguished from the suppuration set up by the presence of gall-stones, or, independent of them, appeals to the discrimination of pathologists, as it is evident from the results of spontaneous and artificial processes in the latter that the prospect of relief in this class of cases is more favorable, than in the degeneration of fluids that characterizes dropsical or sero-purulent collections in the dilated sac of the gall-bladder. The burrowing tendency of these vitiated fluids, when extravasated by local ulceration, so clearly illustrated in my first noted autopsy, by the permeation of different tissues, should afford us a warning against delay in resorting to such operative procedures as may be indicated for the removal of collections in the gall-bladder.

There are serious complications connected with scirrhus of the pylorus, the duodenum and the pancreas, involving to a greater or less extent the bile-duct, which preclude any hope of permanent relief.

I co-operated with two of my colleagues in Brazil, during the past year, in making an autopsy in the case of a man from the United States that had scirrhus of the pyloric orifice of the stomach extending to the duodenum, which caused arrest of the bile from implication of the ductus choledochus.

In a cadaveric examination of a mulatto woman, on the 31st of August of this year, in Atlanta, Ga., with Drs. J. J. Caldwell and K. C. Divine, the pancreas was found in a scirrhous state, with thickening and induration of the tissues around the course of the bile-duct, it being entirely obliterated throughout its length. The distended gall-bladder contained about half a pint of decomposed semi-fluid matter, which had evidently been locked up for a considerable time.

In these cases no operation succeeds, whether the contents of the sac are fluid, semi-fluid or solid. It is proper under some circumstances to evacuate the distended gall-bladder externally, with a view to establish subsequently a free communication from it to the intestinal canal, which is requisite for a successful result of the operation.

Having made an incision into the peritoneal cavity over the most prominent part of the distention, a digital or an ocular examination may enable the operator to determine upon the propriety of opening the sac, and the process of introducing an exploring needle or trocar without making a cutaneous incision, with a view to detect gall-stones, being more liable to serious consequences, it is preferable that this plan of incision, with proper precautions, be adopted, so that the exploration and operation which may be indicated may be completed on the same occasion.

If it is found requisite to open the sac, so as to discharge its contents externally, and the serous surfaces are not adherent, a portion of the adjacent wall of the gall-bladder should be hooked up with a tenaculum and secured with a cutaneous suture around the margin of the incision in the abdominal wall. The tissue included in the tenaculum may then be clipped out with scissors, offering thus a ready exit to the contents of the sac, after which the orifice of the duct may be sought with the finger so as to explore the canal entire with a probe. Should any communication with the duodenum exist, however small it may be, dilatation of the ductus choledochus should be attempted. But in the event of occlusion an effort may be made to pass a curved trocar along the obstructed tract, with a view to establish the canal, leaving the sheath until a fistulous communication is effected, with the inner end passing into the intestine, and the outer extremity projecting from the superficial opening.

Should this measure be found impracticable after evacuating the sac, whether it contains gall-stones or fluid matters, the opening in its walls may be detached from the abdominal incision, and yet retained under control by a thread passed with a needle like a drawing-string around the margin. Thus a finger may be introduced and bring the surface of the alimentary canal below the insertion of the duct in contact with a portion of the wall of the sac, so that a needle with an elastic ligature may be passed through the tissues of both, having their adjoining surfaces united closely in the loop which constricts the inclosed walls until they are cut through, so as to leave a communication between the two, such as has been observed in the ulcerated opening of the gall-bladder into the upper portion of the small intestine. As the elastic ligature might divide the tissues without proper adhesion between the surrounding surfaces, a circular stitching should be made by alternately catching the wall of the sac and that of the intestine with a continuous catgut ligature, which would secure adhesion between their surfaces. This could be left for absorption, while the elastic ligature would naturally find its way into the alimentary canal, and the opening externally may be closed up, with the expectation that the bile shall find its way through the artificial connection into its proper channel for intermixture with the contents of the alimentary canal.

Every step should be conducted so that none of the contents of the gall-bladder or the intestinal canal shall escape into the peritoneal cavity, and we should arrest an external fistulous discharge from the gall-bladder by closure of its walls separately from the union of the external incision.

Notwithstanding the uncertainty of demonstrating surgical procedures upon inferior animals, I have undertaken some experiments upon dogs which are calculated to illustrate the practicability of uniting the walls of the gall-bladder and duodenum by an elastic ligature, and encircling this with stitches of catgut, so as to effect adhesion of the surrounding surfaces, when the opening is made by this constriction and cutting of the tissues. I have operated upon five dogs: on August 9th, 1884, No. 1; on the 11th, Nos. 2 and 3; on the 12th, No. 4, and on the 13th, No. 5. In case No. 3, on the 14th, the stitches being torn loose, perhaps by the tongue or teeth of the dog, the intestines were found upon the ground, and with indications of peritonitis. Being washed and returned, the wound was well closed with interrupted suture, and a broad bandage placed around the body of the animal. On the 15th this case was found to have died during the night, and the post mortem revealed the interesting facts that the elastic ligature had cut through entirely and disappeared in the intestinal canal, while the catgut continuous stitches used to approximate the adjacent surfaces of the gall-bladder and the duodenum had effected a slight adhesion. Upon stitching up the duodenum to the point of the opening it was evident that too much tissue had been included in the ligature, as the orifice was unnecessarily large; and in repeating this experiment I would suggest that the needle and ligature should only include so much of the respective walls as to secure an orifice from the cavity of the gall-bladder into the alimentary canal. While the escape of bile left the sac flaccid, there was no evidence of discharge into the peritonæum, thus showing the efficiency of the mode of proceeding.

The remaining four dogs are still alive, and there is a probability that some of them may survive, so as to afford an opportunity of testing the ligation of the bile-duct and turning the discharge altogether into the artificial opening, of which due notice will be given subsequently.

Taking up the cases in the order of sequence, it may be stated that, after escape of omentum on two consecutive days from the tearing out of stitches, case No. 4 died on the afternoon of August 18th. A post-mortem examination revealed the gall-bladder full of bile, and the unknotted elastic strip was lying loosely upon the external surface of the duodenum, which presented a minute opening into the canal, with some thickening of its walls adjacent to this orifice. Upon a close inspection of the gall-bladder, a small circumscribed portion of its surface was found to be adherent to the under surface of the left lobe of the liver, and the cicatrix of the wound by the ligation was soldered up by this adhesion. As the ligature had broken in the application of it originally upon tying the second knot, I infer that so soon as the tension ceased, by partially cutting through the tissues, it was unknotted by its own elasticity, and as in this case there was no circular stitching, the parts immediately separated, thus failing to present any solution of the single-ligature problem.

The opportunity to verify a favorable result was lost by the escape of case No. 2 on the night of the 18th, which is a matter of regret, as this was the only subject that had no trouble with the external wound, and gave no indications of serious disturbances internally.

On the 20th a puppy of three or four months was operated on, under the influence of ether, by making an incision of two and a half inches and passing a silk ligature through a very small portion of the walls of the gall-bladder and duodenum, by which they were secured in close contact. But the circular stitching together of the serous surfaces around the ligature was not used in this case, and from the fact that bile tinged the discharge from the wound during the afternoon and subsequent morning, I am apprehensive that the silk thread, though doubled, may have cut out from the gall-bladder. The little animal has been playful since the second day, and eats heartily, so that I may have a chance in this case to test the effect of ligating the gall-duct.

Case No. 1 died August 23d, and although the external incision had not united at some points, the inner peritoneal wound seemed to be completely closed Upon laying it open considerable discharge of decomposed serum occurred, and upon tearing up the adhesions of the abdominal viscera a large abscess was opened lying at the posterior part of the right lobe of the liver. There were adhesions of the duodenum to the under surface of the liver, so as almost to conceal the site of the gall-bladder, which had undergone considerable degeneration of structure, yet presented the internal and lower wall distinctly. The securely-knotted elastic ligature was found within its cavity near a fistulous opening that communicated with the duodenum, and the specimen is preserved illustrating the adhesion of the exterior surfaces, and the orifice through the agglutinated walls, which have a striking resemblance to a diminutive human mouth, with the mucous membrane of the duodenum reflected over the margin of the gall-bladder.

In case No. 5 death ensued on the 24th, as, notwithstanding all precautions, the wound had been torn open several times, and at last leaving the spleen and a large mass of the small intestine on the ground. There were adhesions of various tissues about the liver, and firm attachment of the duodenum to its under surface and to a portion of the wall of the gall-bladder, while in other parts the sac had undergone disintegration; yet a well-defined opening from the duodenum into the gall-bladder resulted from the action of the elastic ligature. The slit presented the same characteristics as described in case No. 1, yet being a little longer, and the elastic ligature had disappeared in the intestine. The parts illustrating the fistulous communication and the surrounding adhesion are preserved in alcohol, so as to demonstrate the practicability of effecting this in the human subject, and in cases of degeneration and thickening of the walls of the gall-bladder there is less liability to take on destructive inflammation.

The fistulous communication between the cavities of the gall-bladder and the duodenum effected by the action of the elastic ligature, and the adhesion around this opening caused by the continuous circular stitching of the adjacent serous surfaces, proves the correctness of the principle upon which I have proceeded in these experiments. The extension of inflammation to the gall-bladder in such form as to cause disorganization in No. 1 and No. 5 is not satisfactorily accounted for; and there was no evidence of such serious results to the walls of the gall-bladder in case No. 3, in which it was noted that the gall-bladder was entirely empty and flaccid, as the aperture in its wall joined to that of the duodenum gave a direct outlet to the bile, without presenting evidences of intense local inflammation.

The fact is notable that the knotted ligature remained in the gall-bladder in No. 1 while it passed off in the canal in No. 5, depending doubtless upon the inclination of the knot to one or the other wall when tied. As the stitches placed in the incisions of the intestinal canal pass ordinarily into its cavity, it might have been supposed that the same thing would occur in this union of the gall-bladder with the duodenum, but quite a different principle operates in the two cases. In the case of suturing the incised wall of the abdominal canal alone, coagulable lymph is thrown out exterior to the site of the suture, so that it is protected on the outside and cuts its way into the cavity. But in the junction of the walls between two loops of intestine by a ligature no such process ensues, and in the union of the bile-sac with the duodenum there is a division of the intervening tissues without any chance for such suppurative effusion, so that the ligature is most likely to go in the direction of the knot. It should hence receive special attention in tying the ligature, that the knot be drawn towards the wall of the duodenum, so as to have the ligature carried into the canal after the tissues in its loops are entirely divided.

On the 28th the subject of the experiment for simple ligation of the gall-duct to the duodenum with a silk ligature, being case No. 6 that was operated upon on the 20th inst., was found to be apparently free from all trouble. The external suture having been removed two days previously, and his jacket replaced, the wound was well-nigh closed, excepting at the anterior extremity, where the silk thread used for continuous suture of the internal peritoneal incision came into view. This was caught with the dressing forceps and removed by cutting the knot. Perfect union was effected throughout this line, and no opening could be found for the entrance of the point of the director, so that a puncture was made with the point of the bistoury for this incision.

The exploration revealed union of the gall-bladder and duodenum, with adhesions of the latter to the lower surface of the liver over the line traversed by the cystic gall-duct, so that it was not practicable to ligate it as was intended. Neither could the ductus choledochus be reached, and yet no doubt exists of the exit by opening between the gall-bladder and duodenum, as the small size of gall-bladder indicates that it is kept drained.

Dr. W. S. Elkins, of this city, who has published some experiments on the liver, was with me in this examination of the result, and concurred in the conviction that a communication had been effected. The original operation was made in the presence of Dr. J. A. Gray and Dr. W. G. Owens, so that all the stages of this successful experiment are thus verified by my colleagues.

It should be stated that besides the persons named eleven other medical men have witnessed different steps in the various experiments; and I am under special obligations to Dr. K. C. Divine, who has very kindly co-operated with me in most of the cases.

ARTICLE II.—HÆMORRHAGIC OR HÆMATURIC MALARIAL FEVER. By H. L. TATE, Lindale, Texas.

In attempting to write something of this most malignant form of malarial fever, it is not my purpose to discuss it from a scientific standpoint, but rather to note what has appeared to be its habits, causation, distinctive character, etc., to a busy country practitioner, whose opportunities of investigation have been confined solely to the beside of his patients. I saw my first case in 1867, which was reported through the *Medical and Surgical Reporter* of Philadelphia; since then it has been my fortune to treat a large number, of which no notes have been kept. For this reason I cannot, if I felt so disposed, present an accurate analysis; but, trusting alone to memory, there are some points I wish to present, and some practical and theoretical deductions to which I would like to call the attention of the profession. Will say that my home and work for twenty years have been in Eastern Texas, latitude 32°, on the waters of the Sabine River—a region noted for the prevalence of malaria.

Those of my profession whose lot, like my own, has been cast in such districts, have had to gather all they know of this dread disease from actual observation and what they could learn from reported cases, for until recently our text-books have had nothing to say of this as distinguished from other forms of malarial fevers. For this reason we have had, in a large degree, to depend upon a general knowledge of disease in meeting the requirements in these cases, and devise and put in execution such plans of treatment as the symptoms seemed to demand. To help us in this it was evident from the outset that it was of malarial origin, for the reason that fevers with these distinctive characters only occurred in localities which were subject to malarial influences, and generally, almost universally, in those people alone who had been suffering for a considerable period from some milder form of malarial poisoning.

By the terms " malarial influences " and " malarial poisoning," I would be distinctly understood as meaning that particular *materies morbi*, or micro-organism, which gives rise to our intermittent and remittent fevers. It is not my purpose here to enter into any discussion as to the exact nature of this entity—that it is a " something " which enters the circulation through the respiratory act, or the ingesta (food, water, etc.), I have no doubt, and that that something is organic, and capable of multiplication in the fluids of the body, I think is beyond question. But it is only of the effects of this agent that I would speak now; and that we may the more clearly see its relationship to the particular form of fever under discussion, it is necessary that I allude to the three well-known varieties which undoubtedly take their origin from this particular *materies morbi*—to wit, intermittent, remittent and congestive or pernicious fevers. I have only to mention these names for every one to recall their distinctive characters, and beyond question we have these distinctive characters with other well-known symptoms in " hæmorrhagic or hæmaturic malarial fever." Then, from these facts, that it occurs *only* in malarial districts, usually attacking those people who have been suffering from a milder form of malarial infection, and that the type of fever corresponds exactly with the type as observed in well-known malarial fevers, I am forced to the conclusion that its proper place is among these fevers. I only allude to this from the fact that a considerable number of the profession in the South do, by their views of treatment, deny this, its almost certain etiology.

Now, in addition to its occurring only in malarial districts, almost universally being preceded by a mild intermittent, and the type of the pyrexia, we have symptoms which are distinctive, and that I have been unable to satisfactorily account for. I allude to the extremely yellow or bronzed skin and the hæmaturia. I have a theory, but it cannot be proven without microscopic investigation, and this I have had no opportunity of doing. My theory presupposes the cause of all malarial fevers to be a micro-organism (and I believe this is pretty generally admitted), and that this micro-organism has the peculiar power of destroying or breaking down the red corpuscles of the blood—witness the anæmia we invariably have in the mildest form of intermittents—and that the *débris*, excessive in quantity, because of the extreme virulence of the cause, gives the peculiar color to the skin and the urine. As depurative organs we would expect them to make the effort to eliminate deleterious matters from the blood, in this as in other diseases, and in doing so we have the coloring matter of these broken-down corpuscles lodging in the skin, giving it its bronzed color, and diffused in the urine making it apparently bloody. I have never made a microscopic examination of this urine, for the reason that I am not a practical microscopist, but I firmly believe that when it is done it will fully confirm the above. Why the yellow or bronzed skin form the same coloring matter which gives the bloody appearance to the urine? I shall answer by saying that I have invariably found that a blistered surface in this malady exudes a bloody serum unlike what we find in jaundice and other conditions of yellow skins (except yellow fever), and that the close chemical relationship between the coloring matter of the blood and bile makes it in no way improbable that it is the same agency which produces these apparently dissimilar results.

In addition to this, that we have a general hæmorrhagic tendency cannot be doubted. In a certain per cent. of the most virulent of the cases falling under my notice this tendency has been well marked and most distressing. Blood has exuded from the eyelids, and the entire mucous membranes everywhere have poured out a seemingly poorly-organized blood in such quantities as to speedily prove fatal—purpuric spots also being everywhere visible, from the crown of the head to the soles of the feet.

That we have irrated kidneys, and possibly inflammation of those organs after an uncertain duration of the fever, I have no doubt, but this is wholly due to the unusual strain put upon them. I should not expect to find other than sound kidneys at the commencement of the fever, and that we often have total suppression of urine does not cause me to waver in this opinion. They fail to secrete, because the work they have been forced to do has been foreign to their habits, and the herculean task has resulted, as we often see in nature, in a refusal or inability to do anything, and we have suppression.

The liver and spleen, organs which we find affected generally in malarial fevers, we find affected in this, and in the same manner. Pathology will not show them inflamed but as important organs in the blood-making process, and as our supposed micro-organism acts especially upon the blood, it probably finds a lodgment here, and produces, in part at least, that hypertrophy which we generally expect and have. One of the supposed functions of the spleen being to destroy those red corpuscles whose term of life and service has about expired, relegating the effete with the useful products of this destruction to the circulation to be eliminated or applied to some useful purpose in the economy, it would not be unwarrantable to suppose that in certain conditions it might go beyond its normal duty, and aid these micro-organisms in the destruction of corpuscles which were healthy and vigorous. That it does do so I have no way of proving, but that it is very probable I fully believe. That the normal functions of the liver, particularly as a part of the great chylopoietic system, are interfered with and greatly deranged I think is beyond question ; as an excretory organ I am persuaded it is often accused of not doing its duty when it is entirely blameless; but from observation, and, if you please, by intuition, I feel certain that in the class of fevers of which I am speaking it is terribly impaired in its blood-making qualities.

Now, without any effort at system, we have tried to present some of the probable causes of some of the symptoms we see in this and all malarial fevers. Micro-organisms taken into the circulation and multiplying there ; their possible and probable effect, either directly or indirectly on the red corpuscles ; their probable lodgment in the liver and spleen as centres from which to operate ; the hypertrophy of the latter organ and the possibility of its exceeding the measure of its duty and destroying healthy blood discs ; the interference with the liver as a blood-making organ—and we certainly have, if these hypotheses are correct, abundant reasons, at least, why we should find poverty of the blood, as manifested in anæmia, the most constant symptom of malaria.

Anæmia, of course, means, as used here, an actual, not relative, deficiency of red corpuscles. Our theory accounts for this, and will say that the fact that we do not have hematuria or a bronzed skin in mild attacks of fever and ague, etc., does not militate against it, for the reason that the destructive process is so slow and imperceptible that the *débris* is eliminated or elaborated without producing any effect. On the other hand, when we come to the most pernicious forms without the bronzed skin and bloody urine of "hæmorrhagic malarial fever," the morbific process is slow as compared with this variety, notwithstanding the fact that it may, and often does, prove destructive to human life, this result being due largely if not wholly in this form to fatally impressed nervous centres. "The fount of all the blood is corruptly affected" is an expression more applicable here than in any disease of which I have any knowledge, and certainly in but few diseases do we have such deleterious and speedy effects from a morbific agent upon the vital fluid.

In studying this form of malarial fever, I have often asked myself the question, "Why is it that it is of comparatively recent origin?" All physicians with whom I have spoken tell me, what my own experience has proven, that it is in this form of recent date. Twenty years ago it was not known here, and, from the best information I can get, the same may be said of all our Southern country; not that there were no cases prior to that time, but that they were so rare that the attention of the Profession was not specially called to them. Now, as I have said before in this paper, I do not claim for it any scientific merit, nor will I try to give a logical reason for every opinion I may herein express. That it is with us a new phase of malaria (if malaria at all, and this I think is beyond question) all will admit, and that it commenced being more prevalent about the time the Profession generally was abandoning the practice of a preparatory treatment in malarial fevers, to me is very certain. Is there any logical deduction to be drawn from this? I think so, but why I think so would be hard to make plain. I know very well that so soon as we commenced the treatment of the milder forms of malarial poisoning here, especially "chills and fever," with quinine alone, that to a great extent we ceased to be consulted by the people so suffering, who of course had speedily learned that the doctor would give only the above medicine, and that they could save a bill by buying the drug and taking it without medical advice. This, of course, led to its abuse. The people abused it and I think the Profession did also, and many cases of "hæmaturia" have been brought about by the injudicious taking of large doses of quinine. I have noticed this result upon my own person more than once, and I have too often heard intelligent gentlemen of my profession give a similar experience to doubt it. I do not mean by the above to say, that a dose of quinine produced "hæmorrhagic malarial fever," but that it has produced and can produce, under certain conditions of the vital forces, one of its most certain symptoms, and that under certain other conditions this may be the veritable spark which lets loose the hitherto dormant causes which underlie this dread malady.

I dislike very much to allude to my own experience in this fever, for the reason that I have kept no notes of the many cases I have treated; but I feel very sure that my memory is not at fault when I assert that at least 75 per per cent. of those cases have had the history of a large dose or doses of quinine immediately preceding the attack, *without preparatory treatment.* These have all had histories of "chills and fever" for a longer or shorter period, and, though they may have taken "cathartics" at some time in their illness, they had gradually abandoned the practice and were resorting to quinine *alone* to arrest the paroxysms. Again, I see intelligent physicians, in the columns of our journals, who admit readily that it is beyond doubt a "malarial fever," yet who counsel against the use of this drug in its treatment. Why is this? They use it unhesitatingly and heroically in other forms of malarial fever, but insist that here its anti-periodic and anti-pyrectic effects are more than overbalanced by its tendency to aggravate the hæmaturia. I cannot agree with them, and only mention this to show that a large percentage of physicians have some undefined idea that there is a connection between quinine and hæmorrhagic malarial fever, and they are undoubtedly correct; but, in my opinion, the connection antedates the attack, and depends largely upon the fact that the secretions are in an abnormal condition, and the prima viæ loaded with effete matters, and is not, as the great scavenger of the body, in a position to promptly discharge deleterious matters which have been poured into it. Of course this will not satisfy every one, neither does it entirely satisfy me; but I will here say that I have now for some years entirely abandoned the habit of prescribing quinine, even in the mildest intermittents, without first advising a thorough evacuation of the bowels, and in no instance have I had to treat such cases for a severer form of malaria as a sequence.

I have said very little about the peculiar symptoms of this fever. They are known of all men in the South and West; wherever, in fact, malaria as a cause of fever abounds. That it is more common where the cause most abounds we readily admit. As we get away from our lowlands, near the margins of rivers and lakes, swampy ground, etc., on to higher and more elevated lands, we see less of it. That it is a virulent type, and attended with great danger, we all know who have had to treat it. That all cases are equally malignant is a mistake. For the sake of convenience, and following symptoms, I have been in the habit of dividing it into three distinct grades—all having the same diagnostic peculiarities—yellow or bronzed skin and hæmaturia. These grades correspond to our ordinary intermittent, remittent and pernicious or congestive fevers. Where the intermission is distinct there is generally but little trouble in controlling it; resorting to the same general plan of treatment that we do in common intermittents, one's anxiety and sense of responsibility are greater, and it is not infrequent, if not arrested promptly, for it to assume the remittent type. The pernicious or congestive form invariably proves fatal, or has in my observation; and I find less difficulty here in prognosticating correctly than for almost anything for which I ever prescribed.

Upon recovery, the preceding chronic "chills and fever" are cured, and the subject enjoys unusually good health, being less subject to malarial attacks than previously; but, in the event of such an attack, unless promptly treated and cured, the probabilities are great that this form of malarial fever will supervene.

The treatment which I have usually adopted has been practically the same as that for ordinary malarial fevers. Have given diuretics and diaphoretics with apparent benefit, but rely chiefly upon quinine and brandy, after a thorough unloading of the prima viæ by a saline or calomel purge. Have for many years avoided the use of opiates in any shape, for the reason that the action of the kidneys is impaired thereby. Feel very certain that we run great risk in bringing about suppression of urine by any remedy which impairs in the least the activity of these organs, and this I regard as a fatal symptom. Think I have seen suppression which was attributable to morphia administered to relieve nausea: a most distressing and constant symptom. Iced brandy and lemon juice, with such remedies as will produce frequent small ejections, have succeeded better with me than any other plan of treatment addressed to this symptom.

Have administered chlorate potash, zinc, mur. iron, ergot, etc.; the former on the possibility of favorable action towards the arrest of destructive blood changes, the latter for its supposed beneficial effect in capillary hæmorrhage. Have not noticed that they were at all useful. Have administered jaborandi a few times hypodermically, on the empirical idea that it has some good effect, in some mysterious way, in cutting short the cold stage of such and kindred fevers. Do not think in my hands it has accomplished any good. Practically, I place more reliance on saline cathartics, diuretics, brandy and quinine than aught else. Theoretically, I think there is a possibility of good being accomplished by the administration of peroxide of hydrogen, bichloride of mercury, or remedies of this class, more especially if such remedies could with safety be introduced directly into the volume of the blood. The inhalation of oxygen might prove beneficial. Recollect having seen one case in which the inhalation of the fumes of oil of turpentine (accidentally at first) seemed to give great relief.

To me it is evident that destructive blood changes are more rapid in the pernicious form of this fever than in any disease of which I have any practical knowledge; and if I am correct in attributing this to the action of a rapidly-multiplying micro-organism, then the class of medicines to which peroxide of hydrogen and bichloride of mercury belong should undoubtedly prove beneficial, provided, as above stated, they be introduced into the blood without chemical change.

To sum up the conclusions to which I have arrived in as few words as possible, I think it safer to attempt, by a prophylactic course of treatment, to prevent hæmorrhagic malarial fever than to cure it when it supervenes; and I distinctly announce my convictions that *this can be done.* First, by the use of eliminating medicines, in conjunction with sul quinia, *always* to the end that the parasite or micro-organism, which *is* malaria in the human body, may be promptly removed. Second, to always, by this process, cure promptly every mild intermittent, never permitting it to become chronic. For treatment in its especial form, try anything known to be good in ordinary malarial fevers, not forgetting that its course is very speedily run, and that whatever is done must be done quickly. It is plain to me that death is caused by anæmia, and that this is produced by the destructive action of an organism directly upon the red corpuscles of the blood, which organism multiplies in the blood, probably having as centres from which to operate the liver and spleen; and I look amongst that class of medicines known to be destructive to the growth of such organisms for a possible remedy.

Since writing the above I have been gratified and confirmed in my views in reference to the parasitic nature of malarial fevers by reading the observations of M. A. Laverau, Professeur Agrégé au Val-de-Grâce, as translated by H. McS. Gamble, M.D., and appearing in this JOURNAL of November, 1883. Permit me to quote a part of said article, and commend the whole to the favorable consideration of all who are endeavoring to investigate the causes of malarial or paludal fevers. Laverau says: "The natural history of these parasites of the blood presents, to tell the truth, more than one obscure point yet. I suppose that the bodies No. 1 and No. 2 are kinds of cysts containing the parasitic elements in the state of ova or of embryos. When the embryos are developed they become mobile, then we have the bodies No. 2 containing mobile pigmented granules; when the animalculæ have reached the perfect state, the adult state, they assume the aspect of mobile filaments which, after having struggled some time to disengage themselves from the cyst, end by becoming free in the blood. We find in the history of generation among the protozoa analogous examples of beings which live in a state of encystment during the embryonic period, and which in the adult state are disengaged from their cysts and become free.

"How are the cysts constituted which contain the parasitic elements in the state of ova or embryos? Is it a question of special sacs, independent of the normal elements of the blood, or is it the blood globules that constitute the bodies No. 1 and No. 2? This second hypothesis has recently been defended by Dr. Richard (communication à l'Académie des Sciences, 20 Février, 1882). For some time it appeared to me quite reasonable, so much so that I had announced it in one of my first communications to the Academy of Medicine. I have had to abandon it after having observed the following facts:

"1. The bodies No. 2 which contain mobile pigmented granules, often show very distinct amœboid movements which are never seen in the blood globules.

"2. By the side of bodies No. 2, which have very nearly the diameter of the blood globules, there exist others, evidently of the same nature, which have scarcely one to two thousandths of a millimètre of diameter, and which consequently are much smaller than the smallest blood globules. Some of these free bodies, isolated or agglomerated, have been represented.

"3. In the preparations of blood fixed by osmic acid, colored by picro-carmine and mounted in glycerine, we observe that bodies No. 1 and No. 2 have an envelop with a double contour. It is very difficult to understand how a blood globule can be transformed into a cyst supplied with a wall with a double contour.

"It is very true that we often find in the blood of patients attacked with a paludal fever blood globules which appear hollowed into cavities containing pigmented granules ; but it is very probable that this appearance is due to the fact that bodies No. 2 are often attached to the blood globules. *We sometimes find two, three or four bodies, No. 2 of small volume, upon a single blood globule. The blood globule is excavated at the level of these bodies and becomes transparent. In proportion as the bodies No. 2 increase, the blood globule to which they are attached is more and more consumed, and finally disappears.* The existence in the blood of bodies No. 2 of medium and small volume, free and independent of the blood globules, shows that bodies No. 2 are not simply blood globules transformed by the presence of the parasite.

"I come now to the pathological *role* of the above-described parasitic elements. The following propositions, which all rest upon a large number of cases, appear to me to establish in an evident manner the relation of cause to effect which exists between these parasites of the blood and the symptoms of paludal fevers:

"1. The parasitic elements always exist in the blood of patients with paludal fevers. If the examination of the blood made during life does not permit us to observe the presence of these elements in all cases, pathological anatomy demonstrates that they are always found at least in the capillaries of the spleen.

"2. The abundance of the parasitic elements in the blood is in direct relation with the gravity of the symptoms; in the individuals who succumb to some complication intercurrent in the course of a simple intermittent fever, the pigmented elements are met with only in small numbers, and *in the liver and spleen alone;* on the contrary, in subjects dead of pernicious fever the pigmented elements exist in very great numbers in all the organs in all the vascular tissues.

"3. In patients attacked with intermittent fever it is at the beginning of the paroxysm that we find the parasitic elements in the blood in the greatest number, and, under the most characteristic bodies No. 2 containing mobile pigmented granules, mobile filaments. When the microscope reveals in the blood of a patient the presence of these latter elements, one can predict almost to a certainty that the patient is going to have a paroxysm of fever, even when there exists as yet no apparent morbid disturbance, and the temperature is normal.

"4. The parasitic elements which I have described under the names of bodies No. 1, No. 2 and No. 3, never exist in the blood of patients attacked with diseases foreign to malaria.

"5. The parasitic elements disappear rapidly from the blood when those suffering from paludal fevers are subjected to quinine treatment. One can satisfy himself directly that upon contact with a very feeble solution of quinine the movements of the mobile filaments cease, and the bodies No. 2 assume their cadaveric form. Sulphate of quinine, which rapidly kills animalculæ, arrived at maturity, has probably much less influence upon the germs of these animalculæ, whence the frequency of relapses."

The italics above are mine, and please note the almost perfect confirmation of the views as expressed in this paper upon the especial affinity of these organisms for the red corpuscles. Of course, I can see many unexplained difficulties, when we try to account for all we see in the various forms of malaria; and especially is this so when we examine closely all the symptoms in those pernicious forms which terminate fatally in an incredibly short time; the one case appearing to succumb from nervous shock, and the other from rapid blood destruction, both evidently having their origin in one and the same cause.

ARTICLE III.—SOME PRACTICAL POINTS ABOUT THE FALSE VOCAL BANDS. By EPHRAIM CUTTER, M.D., New York.

1.—THEY SHUT DURING DEGLUTITION.

In 1862 Dr. Frederich Semeleder, at Vienna, afterwards private physician to Maximilian and surgeon-general to his forces in Mexico, and now a resident of Mexico, demonstrated this to me by laryngoscopy. He held the mirror and attempted to swallow. I saw him close, first, the true vocal bands by bringing them together in the median line; second, he shut the false vocal bands in a like manner; third, he shut down the epiglottis, as the larynx was elevated upwards and outwards, by the posterior pillars of the soft palate. Thus was demonstrated that in deglutition the larynx is shut by three separate doors or valves. Dr. Semeleder then showed the opening of the closed larynx in a reverse order, to wit: First, the elevation of the epiglottis to an erect position; second, the relaxation and opening of the false vocal bands; third, the opening and relaxation of the true vocal bands in the order named.

After the lapse of 22 years I see no reason to doubt the claim of Dr. Semeleder that every time the function of deglutition is performed the three doors of the larynx are opened and shut with wonderful precision and exactness, which are the more interesting when one reflects upon the number of times the function is performed by the race of man on the earth each day. In this manner some idea may be had of the amount of practical work the false vocal bands have to do daily.

2.—THE FALSE VOCAL BANDS EXPIRE OR SHUT WHEN THE BREATH IS HELD.

Elocutionists nowadays lay stress on the careful husbanding of the breath in vocalization. They call attention to the condition of the abdominal muscles, and the need of keeping them in a state of tension during phonation. They say: "Draw in a full breath, so that the abdominal walls are kept tense, and only use enough air to make the required phonation, keeping up, as it were, a full head of wind to act on the vocal cords, and let out no more." Now, these directions are admirable, and are well worth heeding by the gentlemen who undertake to address medical associations, for they give ease in speaking and acceptable address to those who hear. The fatigue of speaking is reduced to a minimum, while the fatigue of the hearer, induced by a wasteful use of the breath, is done away with. Now, the laryngoscope shows that this work of holding in the breath is done by the false vocal bands. They antagonize the pressure of the abdominal muscles and diaphragm. This seems a good arrangement to take off the extra work from the true vocal cords, whose function is to produce the basic sounds in phonation and cantation, the finish of the sounds being made by the oripulations at the upper part of the air passages.

Two musical gentlemen, W. Luden, A.M., of Savannah, Ga., a well-known author and publisher, and H. R. Palmer, Mus.D., leader of the Church Choral Union, of this city, lately studied the writer's larynx by laryngoscopy. The mirror was held by the subject of the observations. The question they desired particularly to settle was what caused the so-called "stroke of the glottis," which had been so prominently set forth by Carlo Bassini, another musical author and teacher. They said some taught that the quick opening and closure of the vocal bands was the cause. Others as forcibly insisted that the "strokes of the glottis" were due to the sudden shutting down of the epiglottis, but the examination of the living larynx *in situ naturali* proved that neither of these positions was correct. It was clearly shown that they were due to the sudden opening and closing of the false bands. In this procedure the breath is held by the false vocal bands, just as in the exercise of the elocutionist. The sound "eh" is suddenly produced, and of course it must be by the sudden letting out of the breath and the sudden retention of the same. This was done under the inspection of the gentlemen named. When the breath was held the false vocal bands were seen to be closed, and the false vocal bands were seen to open at the production of the sound in question and as suddenly close at its cessation. As the glottis means the opening of the true vocal bands, perhaps a better name would be "strokes of the false glottis." This may not be acceptable, but in all technologies it is better to call things by their right names. These observations have been verified since.

3.—THE FALSE VOCAL BANDS ARE AGENTS THAT GIVE THE PECULIAR TIMBRE AND CLANGOR TO THE COUGH IN SPASMODIC CROUP, AND OF THE COUGHS THAT RESOUND LIKE DOG-BARKS.

Many years ago there was a young lady who could startle the school whose sessions she attended by voluntarily in health, and involuntarily when suffering from a cold, emitting a cough of such clangor and timbre that would give to the unacquainted observer the impression that she had the worst form of spasmodic croup. The laryngoscope showed, when she made this cough, that the false vocal bands were in contact with a central depression, from which radiated three lines that divided the surface into three equal portions, like a common pie cut into three equal parts or pieces. It was quite evident that this disposition of the false vocal bands was what gave rise to the peculiar cough, as the trifid folds could be seen to vibrate as the cough was uttered. In my own case I have verified the vibrating contact of the edges of the false vocal bands in the act of imitating the bark of dogs. The false vocal bands have important uses in deglutition, in elocution, in voice culture, as they regulate and control expiration. They are not then to be lightly regarded, nor be deemed useless and rudimental appliances. They deserve a better name. I suggest this to Dr. L. Elsberg, of this city—the father of American laryngoscopy—who has been familiar with these points about the false vocal bands.

I suppose that few things more unpleasantly break on the stillness of the dead of night, more thoroughly rouse from sound sleep anxious parents, or sets them more wide awake at once, than the harsh metallic clanging cough, which is the more startling because it comes from such throats, and makes one wonder how such a horrible sound can come forth from such small organs of vocalization. When it is known how it is produced it need not be so disturbing.

It occurs to me that some of the failures in laryngoscopy to see the true vocal bands may be due to the false vocal bands, when they come like a curtain over the true vocal bands. Thus a person may think the exploration improperly conducted because they were observing the false vocal bands when the eye expected the sheen of the true vocal bands. Tell the patient to utter a singing note, and the true bands will appear.

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THE THERAPEUTIC PROPERTIES OF BUTTERMILK.—Buttermilk, so generally regarded as a waste product, has latterly been coming somewhat into vogue not only as a nutrient, but as a therapeutic agent, and in an editorial article the *Canada Lancet*, some time ago, highly extolled its virtues. Buttermilk may be roughly described as milk which has lost most of its fat and a small percentage of its casein, and which has become sour by fermentation. Long experience has demonstrated it to be an agent of superior digestibility. It is, indeed, a true milk peptone, that is, milk already partially digested, the coagulation of the coagulable portion being loose and flaky, and not of that firm indigestible nature which is the result of the action of the gastric juice upon sweet cow's milk. It resembles koumiss in its nature, and, with the exception of that article, it is the most grateful, refreshing and digestible of the products of milk. It is a decided laxative to the bowels, a fact which must be borne in mind in the treatment of typhoid fever, and which may be turned to advantage in the treatment of habitual constipation. It is a diuretic, and may be prescribed with advantage in some kidney troubles. Owing to its acidity, combined with its laxative properties, it is believed to exercise a general impression on the liver. It is well adapted to many cases where it is customary to recommend lime-water and milk. It is invaluable in the treatment of diabetes, either exclusively or alternating with skimmed milk. In some cases of gastric ulcer, and cancer of the stomach, it is the only food that can be retained.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

Distinguishing Human from Animal Blood.—The *Microscope* says, very pertinently, concerning this, that: "In a recent case on trial at Wellsboro, Pa., Dr. Thad. Up de Graff, of Elmira, N. Y., swore very positively on this point. The newspapers give Dr. Up de Graff the credit of convicting the prisoner. It is not the proper place here to determine whether the prisoner was guilty or not; it is within the province of this journal, however, to determine whether the expert testimony was according to facts. Dr. Up de Graff was given some of the stained clothing to examine, and by processes entirely unknown, by decantations, washings, etc., some corpuscles were procured and measured. Dr. Up de Graff positively testified that this was human blood and not dog's blood. When asked if he was the only one who could tell this, he replied that 'there were but *four* men in the world who could tell human blood from dog's blood;' and of course he was one of them. When asked why he could do so much better than others, the reply was, 'On account of the superior character of his glasses, and that his microscope cost sixteen hundred dollars.' The testimony of Dr. Up de Graff makes him give a positive size to the human red blood corpuscle. What do standard writers say on the subject? Gulliver says they are the 1-3,200 of an inch. Flint says they are the 1-3,500 of an inch. Dalton says they are the 1-3,731 to 1-3,050 of an inch. Richardson says they are the 1-3,378 of an inch. Woodward says they are the 1-3,092 of an inch. Frey says they are the 1-2,840 to 4-4,630 of an inch. Welcker says they are the 1-3,230 of an inch. Where is the exact size to judge by? The red corpuscles are also subject to change in size by the varying changes in the blood, and by many drugs. Wagner ("General Pathology") gives a long list of remedies that when administered change the size of the corpuscle. How delicate it is, also, to the various reagents used in microscopical work! I have seen red corpuscles as small as 1-5,000 of an inch. I have never measured red blood corpuscles in lots of fifty each and had any two exactly alike, although using a delicate cobweb eye-piece micrometer and a one-fiftieth objective. Dr. Woodward, of Washington, says: 'The average of all the measurements of human blood that I have made is rather larger than the average of all the measurements of dog's blood. But it is also true that it is not rare to find specimens of dog's blood in which the corpuscles range so large that their average size is larger than that of many samples of human blood.' Human blood cannot be told from dog's blood, except under favorable conditions, and not invariably then. For the sake of microscopy it is a pleasure to know that only *four* men are ready to make such statements. There are a score of men in this country with glasses equal, at least, to Dr. Up de Graff's who would testify directly opposite to him on this point."

VULVITIS AND CHARGES OF RAPE.—Dr. Brouardel (*Annales de Gynécologie*) says: "A young girl may have vulvitis accompanied by more or less abundant discharge. Her mother will naturally question the girl closely, and will, by leading questions, suggest a story which the imagination of the girl seizes upon and finally believes to be her own, though it be without foundation in fact. The incidents are connected, perhaps, with some male who has been in the company of the child, and thus sometimes arises a false accusation fraught with serious consequences. Hence the exact physiology of the female genitals in their early state, together with such modifications in their general aspects as are most frequently found, should be thoroughly known if very serious errors are to be avoided. Three principal varieties of hymen are susceptible of false interpretations: 1. The circular hymen, in whose surrounding parts there exist in many cases certain folds which, upon a too rapid or cursory examination, might easily be taken for ridges, or cicatrices caused by previous ruptures. In holding the membrane tense, however, it will be observed that in cases where the membrane has remained entire the tissue is continuous in appearance. The same hymens will often, owing to their elasticity and feeble resistive power, permit the entrance of the penis without rupturing at all. 2. The hymen in form of a cross, which had two of its branches, at their extremities, attached to perfectly normal notches—so to speak—one at each side of the vagina. Care should be used not to mistake these bases of attachment for accidental ruptures. 3. In certain cases the hymen, instead of constituting a continuous membrane perforated by two holes, presents the aspect of having originally been so constituted, while its appearance at the time of examination is that of two orifices partially separated by a loose floating membrane which simulates a rupture. Examination of the hymen is rendered difficult by the fatty infiltration of the labiæ majoræ. In such cases the vulva is more deeply situated, and the hymen is found in the centre of a vulvalar canal, so to speak. One important fact should always be present in the mind of the expert: the possible cicatrization of the wound produced by the rupture of the hymen. There is in these cases only a sort of temporary defloration. Careful examination will reveal a cicatrix upon the membrane in question and prevent an error in diagnosis. The vulva may be the seat of inflammations of a diverse nature, and also of ulcerations, two accidental conditions which may be developed together or separately. Vulvitis may be of three types, which may be described as strumous, traumatic, and blennorrhagic. Between these three inflammatory characteristics a clear differential diagnosis is difficult to establish. The physician can only pronounce upon them after several examinations. Strumous vulvitis takes on chronic appearances, but is capable of presenting acute exacerbations. Traumatic vulvitis, whatever may be the source of injury, declares itself three or four days after the action of the cause; its duration averages about fifteen days. In blennorrhagic vulvitis there is a period of incubation of about eight days. The inflammation is intense, accompanied by a burning heat of the vulva, and, finally, the urethra is invaded, which is not the case—or very exceptionally so—in other forms of vulvitis. The lymphatic ganglia and vulvo-vaginal glands furnish but weak elements for diagnosis; their tumefaction is proportioned to the intensity of the vulvitis, but gives little evidence as to its nature. There are many varieties of ulceration which may develop upon the vulva, some simple, and others venereal. Chancres, mucous patches and chancroids belong to the latter category. Herpes, ulcerations due to a simple aphthous vulvitis, corrosive or diphtheritic, to the former. The elements of diagnosis are multiple, but uncertain. 'Knowing how to wait' (*savoir attendre*), is here of the highest importance. Many physicians have caused a condemnation of the innocent by pronouncing their opinions too quickly."

HYPOGASTRIC CYSTOTOMY.—Dr. Villeneuve (*Révue de Chirurgie*) says: "1. The hypogastric operation, hitherto used only exceptionally, is coming into more general, though not exclusive, use in cystotomy. 2. It should be performed with the newly-perfected instruments for it; ballooning the rectum by means of an air-ball vesical injection; pushing back the peritoneal cul-de-sac, connected siphon-tubes and antiseptic precautions and dressings. 3. Bladder-suture should be discarded, but immediate union should always be attempted. 4. The hypogastric operation is imperatively indicated in cases of large and encysted stones, intolerant bladder, and impermeable or strictured urethra or vagina, and it is especially recommended in old persons and adult men, and in those in which lithotrity is not applicable, and which have only been treated by the different perineal operations. 6. In male infants it is at least equally as good as the perineal operations. But the good results obtained by these operations for a long time render the indications of the high operation in these cases less imperative. 7. In female children, and females at the age of puberty, the hypogastric operation is preferable. 8. In married women, choice between the hypogastric and vaginal operations is undecided. 9. Inflammatory affections of the uterus, marked deformity of the bladder on account of the deformity of the uterus, and notably cystocele, should lead one to the high operation. In adult females the hypogastric operation should be preceded by urethra dilatation. 10. Constitutional and diathetic affections furnish no special indications in determining the method of operation. The same is true of lesions of the sympathetic plexus."

BELLADONNA A PROPHYLACTIC AGAINST SCARLATINA.—Dr. O. Pritchard (*Lancet*) thinks he has discovered a prophylactic for scarlatina. As soon as one member of a family was taken with the disease, all the children in the house between the ages of six months and fourteen years were at once ordered to take the tincture of belladonna, in doses of from one to three minims, according to age, three times daily. It was thus given to twenty-eight families numbering seventy-four children, of which only four, or a percentage of 5.4, took the fever; while among those similarly exposed, and to whom belladonna had not been given, the percentage of sufferers was 36.2. It is only fair to state that the ordinary antiseptic precautions, with isolation, etc., were followed indifferently in all cases. This was a discovery, based on imperfect data, of Hahnemann, and is at intervals independently resuscitated.

Anomalous Facial Muscle.—Dr. C. L. Bower (*Polyclinic*, February 15, 1884) says that in a recent dissection he found an anomalous muscular slip in the oculo-nasal region. It arose from the malar bone just in front of the zygomaticus major, and, after running obliquely downward, parallel to this muscle, for about half an inch, turned upward toward the orbicularis palpebrarum, beneath the middle of which it divided into two portions. The upper or wider portion seemed to run under the orbicularis of the lower lid, and its fibres afterwards became visible and were lost in the orbicularis fibres of the upper lid. The lower portion was inserted or lost in the outer side of the levator labii superioris alæque nasi, near its middle. There was a distinct interval between the two bands before they reached their points of insertion. It presented no tendon; nor was there any loop of fascia noticed. The zygomaticus minor crossed the anomalous muscle on a more superficial plane.

Management of the Cord.—"An old practitioner" (*Medical Age*, May 25, 1884) says that the too hurried severing of the cord is harmful. Let the child derive from the mother all the blood it may. He believes that the cutting it off from the source of supply before the placenta has become detached is at the expense of its vitality. (Porak has shown this to be an error, Gaillard's Medical Journal, March, 1881.) When pulsation has ceased take a piece of tape, a quarter of an inch in width, and about twelve inches long. This should be strong enough to withstand necessary tension, for it is a very disagreeable thing to have it break in the act of tying. Selecting a point three inches from the child's umbilicus, tie the cord at that point with one end of the tape. Without cutting it tie the cord with the other end at a point two inches nearer the placenta. It is important that the first tie be sufficiently tight to prevent hæmorrhage, and to that end it would be well for the accoucheur to imagine for the time being that he is ligaturing an artery, and that the inner coat thereof must be severed by the ligature. Both ties having thus been made, one cut of the scissers severs both cord and ligature. A piece of cotton cloth, six inches square, is then taken, and a hole large enough to admit the cord is cut in its centre. Through this hole the cord is then passed, until the cotton reaches the child's abdomen. The cotton is then neatly folded around the cord, and tightly wound with five or six turns of twine or thread, to keep it snugly in place. Thus wrapped the cord is laid on the child's abdomen, severed end up, and at an angle of forty-five degrees, in which position it is retained by the binder.

MISTAKEN SEX.—Dr. W. P. McGuire (*Medical Advocate*, May, 1884) reports the following case: "A. B., thirty-five years of age and in good circumstances in life, consulted me on January 12, 1884, in order to have the sex to which she belonged determined. She was to all outside appearances a fairly-formed woman about five feet four inches in height, with long hair curling down her back. Her voice and features were effeminate, and her demeanor was modest. From birth her dress had been that of a woman. All of her associations had been with women, and her business in life that usually followed by that sex. There was no hair upon her face. He found upon examination that the formation of her thorax was similar to that of a woman, and that her breasts were developed similarly to those of a young girl. The nipple was erectile. Her arms, hands and lower limbs were like those of a man. There was a small penis in the natural position about three-quarters of an inch in length, with a well-formed glans and prepuce. It was capable of erection, but had in the glans no aperture. Following from the base of the penis backwards was a sulcus about one-half an inch in depth and two and a half inches in length. Lying upon each side of this sulcus, and each enclosed in separate scrotums, were two well-formed and developed testicles, each attached to a moderate-sized spermatic cord, the whole conformation resembling the vulva of the female. There was no opening in this sulcus, but just at its posterior termination was an opening one quarter of an inch in diameter, which was the external opening of the urethra, extending backwards and upwards into the bladder. No prostate gland was found. She stated that all her proclivities and desires had been masculine, and admitted that occasionally in her sleep she has pleasurable sensations followed by ejaculations of a white fluid from the opening of the urethra, which was, of course, an ejaculation of semen. There was no trouble in determining her sex. She was advised to change her dress to that of a man, and to attempt to have by a plastic operation a new urethra made from its termination in the perinæum, along the sulcus to the glans penis, in order to produce more effective urination."

ANURIA.—Dr. Mandellen (*Journal de Médecine de Bordeaux*, June 29, 1884) concludes: "First—Anuria is only a symptom having for cause (unless of hysterical origin) only a mechanical or organic obliteration of the ureters or a renal disease. Second—It is of serious import only through the uræmic accidents to which it leads. Third—Its gravity is in proportion to the lesions which produce it; mortal if these be permanent; curative if they are but temporary. Fourth—Curable anuria is immediately followed by an abundant diuresis of short duration. Fifth—The exclusive use of milk should occupy the first place in the treatment of anuria ; then come venesection, leeching, caffeine, alcoholics, ammonia acetate and drastic purgatives."

Operative Interference in Pulmonary Gangrene.—Dr. C. Tenger (*Journal American Medical Association*, July 19, 1884) says: "The operation should be performed as soon as the physical signs of a cavity become manifest. It should not be done (for anatomical reasons) when the cavity is covered by the scapula or is situated in the apex of the lung. The latter will hardly ever happen in cases of pulmonary gangrene. The location of the cavity should be ascertained by making an exploratory aspiration with a fine needle. The opening into the cavity should be made at the spot where the cavity comes nearest the surface; for not only should as little lung as possible be injured, but the shortest possible canal should be made into the cavity ; the shorter the canal is, the easier kept open and drained of the contents of the cavity. Besides, pleural adhesions may be expected where the cavity is most superficial. These will prevent the causation of a pyopneumothorax. It almost seems that, under these particular circumstances, the dread of opening a pleural cavity is founded on theory more than on practice. In not one of 20 recorded cases in which pulmonary cavities were opened did this complication occur. The incision should be made parallel with the the ribs, one or more of which should be resected if necessary. It is essential to have free access to the cavity, as well for the immediate digital exploration made for the purpose of removing large pieces of dead pulmonary tissue, as for the sake of having a wide canal (subsequently) into which sufficiently large drainage-tubes can be introduced. Experience has shown that these canals are liable to contract and close up before the pulmonary cavity has become obliterated. The canal leading through the pulmonary substance into the cavity, is best made by means of the thermo-cautery, as proposed by Albert and Koch. Their method is regarded by Mosler as superior to any other as yet suggested. The smaller burner of Paquelin's cautery should be gradually worked in through the substance of the lung along a detached hypodermic needle used as a guide. The cautery will thus be pushed in, not merely in the direction of the cavity, but also in the shortest line existing between the latter and the surface. Working slowly with the red-hot cautery will produce no disturbing hæmorrhage from the pulmonary parenchyma, and the canal can easily be enlarged to such size as may seem convenient. Having reached the cavity it should be explored with the index finger ; if large and detached pieces of lung-tissue are discovered they should be removed with a pair of forceps, being very careful to avoid causing any hæmorrhage by tearing off still-adherent shreds of pulmonary tissue. The knowledge that it is not uncommon for the walls of a gangrenous cavity to bleed considerably will render one cautious while making the digital exploration. Whether it is advisable or not to make a counter-opening, for the sake of facilitating draining and washing out of the cavity, can as yet hardly be stated. The wound may be dusted over with iodoform ; this substance has proved effective in preventing the setting up of inflammatory disturbances by fetid fluid discharges coming into contact with the wound, as for instance in operations about the mouth and the rectum. But whether iodoform is indispensable in surgical cases of pulmonary gangrene is questionable. No case has as yet been reported in which the gangrenous fluid of a pulmonary cavity as such did much harm to the external wound ; indeed, the fluid contained in these cavities does not seem to be septic. A heavy antiseptic dressing should, of course, protect the wound. Septicæmia or pyæmia is just as likely to develop from a wound in the lung as from a wound in any other part of the body. But as it is difficult, nay, next to impossible, thoroughly to disinfect a pulmonary cavity, the consequences of sepsis would in these cases be disastrous. How often the dressings will require to be changed will be indicated by the amount of discharge found in them. In the beginning the wound will probably require dressing every day ; later on, less often will be sufficient. Daily washing out of the cavity may be desirable, but does not seem to be essential. It had probably better be omitted if followed by violent coughing. Internal treatment should be in accordance with principles commonly laid down for the treatment of the disease in question. Disinfecting or deodorizing inhalations, however, whose influence it is difficult to comprehend from a rational *a priori* standpoint, seem to be rendered superfluous by the operation. If the canal should close before the cavity has cicatrized, the operator need not hesitate to remedy the matter by a second operation. In favorable cases the patient's general health will be far better than at the time of the first operation. As yet, however, no case has been published in which a second operation was necessary."

RAILWAY SPINE.—Dr. Chas. K. Mills (*Polyclinic*, March 15, 1884), says : "The amount of money that has been paid out by corporations, benefit societies or individuals, because of suits or threatened suits for damages in cases of railway or other accidents, is something almost incredible. At least two classes of cases, besides those of recognizable gross lesion, are to found in the ranks of those claiming such damages. These are, first, the bogus cases, or malingerers, and secondly, the cases of nervous mimicry. An individual who has been in a railway collision, or has been the victim of an accident for which somebody else may possibly be made responsible, may deliberately practice fraud, or he may consciously or unconsciously imitate or exaggerate real symptoms of serious import. Sometimes in the same case there is a mingling of real and of simulated, or of neuro-mimetic disorders. As long as a claim of damages in this class of cases exists, one should be careful in making a diagnosis. The neuro-mimetic cases often occur, particularly in the hysterical and neurasthenic, without any reference to litigation. The following case is one of a somewhat serious affection, which has many of the appearances often presented by bogus or mimetic cases. T. H. J., aged 57 years; born in Maryland; carpenter. His family history is good, and he denies ever having had any form of venereal disease. His present trouble dates back to July 28, 1882, on which day, while walking in the street, he was struck on the back of the neck and between his shoulders by a heavy bale of rags thrown from a second story window; it knocked him down and stunned him; he was unable to rise without help; he was taken to the Pennsylvania Hospital, where he remained in bed for six weeks; his right arm was paralyzed partially after the injury, and he also felt peculiar tingling and creeping sensations, which seemed to start from about the upper dorsal vertebræ and extended down to the posterior parts of arms to the elbows. Similar sensations were also felt in the back of his neck, and there was such loss of power in the muscles of this part that he was unable to hold his head upright. These sensations of "deadness and tingling" gradually extended down his arms to the hands, and also down his back and lower limbs, until his entire body seemed affected. At the end of six weeks he recovered so far as to allow him to leave the hospital. At this time he had a settlement for damages. He settled entirely for $300. After that he gradually got worse, until March 5, 1883, when he fell in the street and was unable to rise, and has never been able to walk since. This man's trouble has been largely in the trunk, his neck and upper extremities, which is not usually the case; he has no trouble in his head or face; he has had some difficulty in holding his head erect, on account of the pain in the back of the neck just to the left of the fourth cervical vertebra. Jarring his head hurts him along the spine. He has in this position no pain on pressure, however, along the central line of the spine. Twisting his trunk causes pain in the dorsal and lumbar region. Bending him forward causes him no pain. The faradic current applied down the spine causes no pain. He is only able to raise his arms just above a horizontal line. The dynamometer indicates, with the left hand, 35, compared with 100 normal; the right hand indicates 40, compared to 100. He has some numbness in his forearms and hands. His legs are well nourished and do not feel numb. Patellar reflexes exaggerated. He has had no bladder trouble. Farado-contractility is retained in both lower extremities, although somewhat lessened in the upper. The fact that this man has got worse after the payment in full of his claim for damages is in itself a strong presumption in favor of the genuineness of his disease. He does not complain of spinal tenderness, except in a localized area, where his back was contused. The loss of contractility in his upper extremities cannot be simulated. If electro-contractility be diminished or abolished, the physician has probably had to deal with some real mischief to nerve or nerve-centre; but it is not true, as stated in a surgical work, that the retention of contractility to the electrical current is absolute proof of fraud on the part of a patient claiming damages. In some forms of paralysis due to central lesion, contractility is not impaired."

GUNSHOT WOUNDS OF THE SMALL INTESTINES.—Dr. Chas. Parkes, of Chicago, Ill., thus concludes respecting gunshot wounds of the small intestines: Hæmorrhage following shot wounds of the abdomen and the intestines is very often so severe that it cannot be safely controlled without abdominal section; it is *always* sufficient in amount to endanger life by secondary septic decomposition, which cannot be avoided in any other way than by the same treatment. Extravasations of the contents of the bowel after shot injuries thereof are as certain as the existence of the wound. No reliable inference as to the course of a bullet can be made from the position of the wounds of entrance and exit. The wounds of entrance and exit of the bullet *should not be disturbed* in any manner, except to control bleeding or remove foreign bodies when present. They need only to be covered by the general antiseptic dressing applied to the abdomen. Several perforations of the intestines close together require a single resection, including all the openings. Wounds destroying the mesenteric surface of the bowel always require resection. The best means of uniting the wounded intestine after resection is by the use of fine silk thread after Lembert's method. It must include at least one-third of an inch of bowel tissue, passing through only the peritoneal and muscular coats, never including the mucous coat. The everted mucous membrane must be carefully inverted, and needs no other treatment. Wounds of the stomach, small perforations, and abrasions of the intestines, can be safely trusted to the continued catgut suture. Every bleeding point must be ligated or cauterized, and especial care devoted to securing an absolutely clean cavity. The best method of treating the stumps of divided mesentery is to save the mesenteric surface of the bowel as above indicated. *Primary abdominal section* in the midline gives the best command over the damage done, and furnishes the most feasible opening through which the proper surgical treatment of such damage can be instituted. Farther, its adoption adds but little, if anything, to the peril of the injury. The moral effect of the assurance to the patient, that he will be placed in a condition most likely to lead to his recovery, is a good substitute for the mental depression accompanying the general and popular conviction that these wounds mean certain death.

CEREBRAL ABSCESS OPENING INTO THE NOSE.—Dr. Tassi, Rome, Italy (*Lancet*), reports the case of a patient, who, three months previously, had sustained a comminuted depressed fracture of the skull in the left frontal region. The patient, F. B., from Civita, Vecchia, was a robust railway engine-driver. The blow had been inflicted with a sledgehammer; and the extensive comminuted and depressed fracture was complicated with diffuse hæmatoma and very serious cerebral symptoms; loss of consciousness, high fever, paraplegia, and paresis of rectum and bladder succeeded. Antiphlogistics and counter-irritants were employed, and the propriety of trephining was discussed. Some sero-purulent fluid escaped through the centre of the wound, which admitted a probe for a considerable distance into the cranial cavity. The symptoms of cerebral irritation and compression increased, the limbs became contracted, divergent strabismus and priapism ensued, and the speech was monosyllabic and unintelligible. The seventieth day after the injury, sero-purulent fluid suddenly burst from the left nostril, and continued for four or five days, amounting in the aggregate to several ounces. As the discharge progressed, the symptoms of irritation and compression decreased. The patient first recovered consciousness and speech, then sensitive and motor power. In the course of fifteen days, all the functions of organic life were restored to the normal standard, and in three months from the date of injury the patient was able to return to work. The researches of Schläger show that in just such cases insanity of gradual origin results.

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ORIGINAL TRANSLATIONS.

Aphasia. By H. Hallopeau, Adjunct Professor to the Faculty of Medicine, Physician to the Hospital Saint Louis. Translated from the *Union Médicale*, of March 1st, 1884, by H. McS. Gamble, M.D., Moorefield, West Va.

Taken in its literal sense, this name applies to all the disorders of language that render it impossible for a patient to express himself. This is the signification attributed to them by M. Jaccoud. Our learned master distinguishes five forms of aphasia, which are hebetude, verbal amnesia, logoplegia, glosso-ataxia and glosso-plegia. In spite of his great authority, this view does not seem to have been generally adopted, and the majority of authors reserve the name of *aphasia* to the disorders of language which are independent of any derangement of ideation and articulation. The name *alatia* might be retained to designate the symptom described by M. Jaccoud.

In order to study aphasia, it is necessary, as Charcot has done, to indicate first the different acts which intervene in the function of language.

We distinguish spoken language and written language. Spoken language supposes the knowledge of a large number of sounds, of which each one represents a sign, and consequently *auditive memory;* written language supposes the knowledge of graphic signs, the grouping of which equally represents signs, and consequently *visual memory.* The same considerations are applicable to the language of gestures. The union of these memories constitutes what Charcot calls the "passive phase of the faculty of language."

In the active phase, the partial memories ought to enter into communication with the motor centres of co-ordination which preside over the articulation of words and writing. Charcot admits, finally, that the sensations produced by the movements necessary for the execution of these acts are themselves stored up in the cerebral substance, and there form two other partial memories, the memory of the movements of speech, and the memory of the movements of writing. These views enable us to understand the mode of production of the different forms of aphasia, as well as of the disorders designated under the title of verbal blindness and verbal deafness.

Aphasia may result from the rupture of the relation which normally exists between the centre of the memory of words (centre of verbal ideation) and the centre of reverbal expression.

A patient whose physiognomy is intelligent understands what is said to him, he has no appreciable paralysis of the muscles of the lips or of the tongue, and yet he finds himself unable to reply to the questions addressed to him; most frequently he makes an effort to speak, and succeeds only in articulating one or a few syllables, always without significance, if not in themselves, at least for the patient, and always on the same subject. It is rare that the mutism is absolute; but is not the constant repetition of the same syllable without signification a sort of mutism? These cases are not very rare. We have observed at La Salpetriére, during the service of M. Vulpian, a patient who did not utter another syllable than ta, ta, ta, and repeated it indefinitely. Other aphasic patients have at their disposition only one of the syllables pan, tan, te, etc. Ordinarily the word, a little more complex, comprises several syllables without signifying anything more; such are concici, saccon, ètc. The word or the phrase which the patients repeat without ceasing may have a signification, but without their suspicion of what it is. Thus it is that certain aphasic subjects repeat to satiety the words *yes* or *no*. A patient of Trousseau used to say incessantly *ah! fort!* Another, *there is no danger*. We will soon see that these patients seem to be most frequently attacked with a disorder of the memory of words, for they cannot name the objects presented to them; but this amnesia is only apparent, for if one names before them an object presented to them, their countenance and their gestures testify that they recognize whether this name is correct or not. Likewise, they can usually distinguish an object by its name; so then, in the aphasic subject we may observe the existence, not only of the idea and of phonation (the words articulated by these patients are always pronounced with a remarkable precision), but also, generally, of the memory of words; their transmission alone is impaired, the verbal amnesia is only apparent; it varies, moreover, according to the different forms of aphasia. In certain subjects, however, the amnesia is completed. They cannot recognize the objects about them when they are designated by their name.

It is not rare to see patients, under the influence of emotions, allow interjections and different exclamations to escape them and afterwards preserve no recollection of them. This is because the centre of mesocephalic intervention of speech seems to be able to act directly under the influence of reflexes and independently of the psychical centres. In another form the patient can repeat the words which are pronounced in their presence, but they remain incapable of finding them spontaneously, and they forget them immediately.

At other times the aphasia remains incomplete, and in this respect several varieties may be distinguished according to the degree it has reached. Sometimes the patient pronounces only a few words ; sometimes, on the contrary, he can construct his phrases and commits no mistakes other than allowing the names of certain substantives to escape. It is, in fact, most frequently the names of things, and, above all, proper names, the recollection of which is lost. The patient substitutes words for those which fail him (*paraphrasic*) ; he often commits grammatical mistakes ; his sentences are badly formed ; he forgets the verbs and places the subject at the end of the sentence (*aggrammatisme*). At other times the aphasic patient changes the nouns which he uses. This was the case with the patient of Trousseau, who ended all his words in *if*, and said "*bontif*" for *bonjour*, "*ventif*" for *Vendredi*. In the cases in which the disease ameliorates, one may see the different degrees of aphasia which we have just enumerated succeed each other more or less rapidly. In incomplete aphasia the patients are often mistaken about words. This disorder is sometimes so pronounced that the language is totally incomprehensible. It is not very rare to see aphasic subjects, who have just been told the name of an object, apply this same name to all those that are afterwards presented to him. If, for example, the word *glass* is used, the patient, after having applied it properly one time, repeats it for several minutes for every other object which is shown him.

Often, after having become impatient to pronounce the words which are required of him, the patient imagines that he has found them, and it is only upon seeing by the expression of his interlocutor that such is not the case, that he is grieved and agitated. However, he has preserved the memory of words, since he recognizes the names of the objects surrounding him when they are pronounced.

The ability to write may be *abolished*, *diminished* or *preserved*. Sometimes there is a certain difficulty in determining the state of the handwriting, by reason of the paralysis of the arm which usually exists in such a case, but this obstacle rarely deserves to be seriously taken into account, for it is a matter of observation that, in the case of aphasia, the paralysis is ordinarily but slightly pronounced. We can besides, in such a case, as we have to deal with a hemiplegia, put the pen in the hand of the sound side, and thus obtain, when there is no agraphia, a legible handwriting, although rudely formed. This writing is inclined from above downwards and from left to right, and consequently in a direction inverse to that of the right hand.

Most frequently the speech and the handwriting are modified parallelly. The latter is annulled when the former is almost abolished. In the cases which are to recover, the patients gradually regain the faculty of writing at the same time as that of speaking. Incapable, at the beginning, of forming letters, they soon shape them better and better ; then they arrange them in the form of words, at first incomprehensible, then more and more distinct. It is not rare to see them at first substitute one for the other in such a way as to deprive the sentence of all sense. After a certain time, sometimes in a few days, the patients may have recovered the integrity of their handwriting. A sample published by M. Grasset furnished a remarkable example of it. It must be admitted that in these cases the cerebral lesion presents an obstacle concurrently to the communications between the centres of auditive memory and of visual memory with the co-ordinating centres of speech and writing, but it is not always thus, and these communications may be seen to be interrupted separately.

Generally it is the faculty of speech which cannot be exercised, while written language remains possible. Trousseau and Jaccoud have reported some remarkable examples of this. With these patients the memory of words is intact; they read mentally, they write as well as their paralysis permits them to do. Certain of these aphasic patients can write only under dictation.

Among other subjects, matters are carried on inversely; the centres of verbal ideation preserve their connections with the co-ordinating organs of speech, but the centres of visual memory cease to communicate with that of writing, whence the impossibility of writing without aphasia properly so-called; such is at least the interpretation, according to our opinion, that the cases of Forbes, of Winslow, and of other authors cited by M. J. Falret ought to receive.

Certain aphasic subjects preserve the faculty of singing, although they are incapable of speaking a single word. A patient whom we had under observation at La Salpetrière, during our internat in the service of M. Vulpian, was unable to name the objects presented to her, and yet she used to sing, pronouncing her words remarkably well, the first couplet of the *Marseillaise.* These facts demonstrate that the psychical centre in which musical souvenirs are deposited is distinct from the centre of verbal ideation, even for the words which are associated with them.

Sign language is for the most part, but not constantly preserved. Certain aphasic subjects seem only in appearance to express their thoughts by the signs *yes* and *no*, for one may be convinced by observing them that they make these signs purely at hazard. Trousseau has shown that the signs necessary to the expression of certain sentiments continue to be produced by reflex action, but that the patients are incapable of making them spontaneously.

As to *drawing*, the same varieties must be accepted; there are some aphasic subjects who, formerly artists of talent, have become incapable of holding a pencil; others can copy a model; others, finally, draw as they did before becoming diseased, but this can be the case only very rarely, because of the hemiplegia, which coincides almost constantly with the suppression of speech.

It is the same, finally, in regard to *calculation.* We see patients who have become incapable of expressing a single figure, others are unable to appreciate the value of them; a small number only can count upon their fingers the figures which they are incapable of pronouncing.

The intelligence is always well enough preserved to render it impossible to explain by its alteration the disturbance of speech, for otherwise the latter cannot be considered as a true aphasia; but that does not mean that it remains intact. The question is very difficult to determine, by reason of the obstacles that the abolition of language presents to the appreciation of the intellectual activity. The aphasic patients who, after cure, have furnished information upon this subject are not agreed. Professor Lordat assures us that he remained capable of combining the elements of a lecture. The patient of M. Grasset has declared that he understood what was said to him, and that he had the ideas necessary to reply, and that all that was wanting for this was the words. On the contrary, M. Spalding recognized the fact that his ideas had lost their clearness. Direct observation of the patients suffices, moreover, to demonstrate in many of them a considerable disturbance of the intelligence; such are those who for several weeks read the same page of a paper. Sazic, a pupil of M. Magnan, believes that the state of the intelligence may be very different among aphasic patients, and he established in this regard three classes, comprising: first, the patients who have preserved their intelligence almost entirely; secondly, those who have it manifestly weakened; thirdly, those who are in a state of dementia. This last appears to us very questionable. We do not believe that it can be connected with the aphasia; it constitutes a complication.

There have been described with aphasia, although they are quite distinct from it, the symptoms known under the name of *verbal deafness* and *blindness.* The patients who are attacked with it can express themselves by speech and by writing, and only some of them cannot, in spite of the integrity of the hearing, understand the words which they hear, although they can speak and perceive the slightest sounds; others cannot, in spite of the integrity of vision and the conservation of the faculty of writing, read writing. A patient of M. Gérandeau easily read the questions addressed to her in writing, and she responded thereto, but she did not understand the words addressed to her, although she distinctly heard the tic-tac of a watch; she was afflicted with verbal deafness. A patient of M. Charcot could not read what he wrote any better than printed matter. When he succeeded in reading a word, it was by drawing the letters one by one which comprised it, or by retracing them in space with his fingers; he saw them clearly, but could not read them. M. Charcot formulates the physiological interpretation of these disorders by saying that, in *verbal blindness,* the patient has lost the idea of the signs of written language as far as regards reception, while he has preserved the phenomena of auditive reception, and those of graphic and verbal transmission; in *verbal deafness* the patient has lost, as regards reception, the idea of the signs of spoken language, while he has preserved the phenomena of visual reception, and those of graphic and verbal transmission. These functional disorders coexist most frequently with signs of aphasia, but they may be equally produced separately.

Aphasia is almost always provoked by a clearly appreciable lesion of the encephalon; ramollissement is by far the most frequent cause, then come cerebral tumors and hæmorrhage. Exceptionally, the same symptom has been observed in typhoid fever, in smallpox and in puerperal infection, without it having been possible to determine what was at that time its approximate condition. Charcot has described an *aphasia of Migraine,* which certainly is connected with an extension to the encephalic vessels of the disorders of innervation that characterize this affection.

Whatever may be the nature of the lesion, it seems constantly to occupy the same parts of the encephalon, which are the third convolution, the adjoining part of the island and the fasciculi which connect them with the corpus striatum (*corps opto-strié*); in the great majority of cases it is the left side which is involved. These propositions, very sharply discussed but a few years ago, are gaining more and more adherents. It is due to the successive works of Professor Bouillaud, who located language in the anterior portion of the hemispheres of the brain, of Dr. Dax, who placed it in the left hemisphere, and finally of Broca, who fixed it in the third convolution of the left side. This is true in the great majority of cases, and those which seem to form an exception on the contrary only establish the rule. Meynert has shown that the parts of the *island* which touch upon the third convolution were sometimes interested in cases of aphasia, and Lépine has described a case in which the lesion was limited to this portion. It must be admitted, then, that, in certain subjects at least, the centre whose lesion produces the aphasia is a more extended one than Broca thought. On the other hand, it might have been suspected *a priori* that the alterations of the white fasciculi which connect the centre of aphasia with the subjacent tractus might give rise to this functional disorder, and observation soon came to confirm this view; Grasset has collected thirteen cases in which the aphasia was provoked by lesion of the right lower pediculo-frontal (*pédiculo-frontaux*) fasciculi (*fasciculé*), which are subjacent to the third convolution.

The seat of the lesion is not always on the left side, and we have now quite a large number of cases in which it was located in the third convolution of the right side; but, strange to say, it has been almost uniformly noticed that in such cases (H. Jackson) it concerned left-handed subjects. These facts are of the highest importance as regards the doctrine of cerebral localizations; they show not only that the locality of the connection between verbal ideation and expression by language is seated in the third convolution, but also that it is situated in one-half of the encephalon, the same in which the greatest dexterity of the upper limb is habitually seated, and particularly its aptitude in writing and sewing; it is a new evidence that the left-handed man ought to be differentiated from the right-handed. We might certainly go further in the way that we have just indicated. An attentive study of the lesions will enable us to determine at what points the lesions are located which give rise to the different varieties reviewed above, and particularly to agraphia, to aphasia properly so-called, etc.

Already has Exner believed that he could establish a connection between agraphia and the lesions of the middle lobe of the left side.

The verbal deafness has coincided several times with a lesion of the first left temporal convolution, and the verbal blindness appears due to a lesion of the left lower parietal lobule. M. Charcot remarks that in a certain number of cases lesions seated in this same part of the encephalon appear to have produced right lateral hemiopia; there was a juxtaposition of the two centres, and, in fact, verbal blindness has been seen several times to coincide with right lateral hemiopia.

Some have sought to reproduce, by experimentation, the demonstration which the clinique gives relatively to the localization of the disorders of language; only very uncertain results could have been expected, since man alone possesses articulate language. It is interesting, however, to observe that Hitzig and Ferrier have paralyzed the lips and tongue of the ape by destroying the portion of the encephalon which represents in it the third convolution, and that M. Duret has seen its extirpation in the dog cause him to lose the ability to bark. He has succeeded in suspending and re-establishing alternately this function by practising compression and relation successively of the artery which is distributed in this region.

Aphasia, by reason of the vicinity of the third frontal convolution and the ascending frontal, coincides most frequently with a hemiplegia which is almost always seated upon the right side; this paralysis is ordinarily but slightly developed in the face; the aphasia, as a general rule, is so much the lighter as the paralysis of the lower limb predominates the more over that of the upper limb. In those very rare cases in which no lesions are found, we would have to admit some functional disturbances in the innervation of the encephalon. We may interpret in the same way the absolutely exceptional cases in which a lesion has been found remote from the third convolution.

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ORIGINAL ABSTRACTS.

GENERALIZED VACCINAL ERUPTIONS.—Dr. H. Dauchez (*Journal de Médecine de Bordeaux*, June 29, 1884) states that vaccination when first performed causes, in certain persons, particularly certain children, dermatose as well as secondary vaccinal eruptions of variable aspect. These last resemble very much those produced by variolous inoculation, but are distinguishable since the period of incubation is shorter, general symptoms (fever, rachialgia. diarrhœa, vomiting, etc.,) are absent, the vaccinal pustules are of rapid evolution, contagion is absent, and these eruptions are innoucous (Dauchez states that vaccinations from these vaccinal pustules are unattended by results, but cases are on record where regular vaccination followed from this procedure). The febrile period of vaccination is complicated in certain subjects by secondary eruptions coming on in general on the seventh to eleventh day thereafter. Some (generalized vaccinæ) caused by inoculation are constituted by pustules irregularly distributed on the surface of the body. Others are dermatoses of an eczematous, roseolaceous, miliary, pemphigoid, or purpuric character. The first type results from scratching or by accidental wounding and unconscious vaccination of the wound. The first type usually appear on the twelfth to fifteenth day. The second are contemporaneous with local eruption. The roseolaceous vaccino-dermatosis is a pyretic, appears on the eighth to eleventh day, lasts one to three days. The miliary vaccino-dermatosis appears on the eighth to eleventh day. The pemphigoid eruption presents two types, a local phlyectenoid eruption or a (sometimes hæmorrhagic) pemphigoid. These types are frequent in cachectic cases (tuberculous, nephritic, etc.). Hæmophilia predisposes to purpuraceous vaccino-dermatosis, but there exceptionally occurs a hæmorrhagic vaccino-dermatosis analogous to variola hæmorrhagica.

KILLING OF AN ANENCEPHALOUS FŒTUS.—Dr. W. H. Pittmann, Lutesville, Mo. (*Southern Practitioner*, July, 1884) reports the following case: He was called to see a woman, æt. 38, and found she had been delivered of a rather anomalously formed child, which was dead. The placenta was undelivered, and there was considerable hæmorrhage, which ceased as soon as I delivered the placenta. The mother, about the fourth or fifth month of gestation, while hoeing corn in a bottom field (she being the wife of a farm laborer), struck a frog on the back with her hoe, lacerating and skinning it from the head a considerable way down the back. That afternoon she made frequent remarks in regard to the frog, and her mind seemed more or less impressed with the incident at frequently recurring intervals until her confinement. The fœtus showed a marked cicatricial development on the dorsum and back of the head, this portion being covered with a thin membrane of a cherry color. There were no occipital or parietal bones, and the os frontis was imperfectly developed. The eyes were situated at the top of the head and were quite prominent—even protuberant as those of a frog, which it very much resembled in its general appearance. While the general characteristics of this case are by no means uncommon in the history of the development of monsters, yet the frequent recurring remarks of the mother during the latter half of gestation, and the general resemblance of the fœtus to a frog—even though it might have been merely coincidental, is another link in the chain of evidence regarding maternal impressions on the fœtus in utero. The child was dead on the doctor's arrival, though it was not still-born. Noticing that the cord had not been ligated, he asked the midwife her reason for this neglect of one of her duties, to which she replied "that she thought it would have been a sin to have done otherwise." Under the law of every State in the Union, the midwife could have been indicted for manslaughter!

Neutral Salts in the Human Stomach.—Dr. W. Jawnsky (*Zeitschrift fur Biologie*) says: The administration of salts in the form of acid carbonates, as with an excess of carbonic acid, is advantageous, for absorption takes place more quickly, and with a more rapid emptying of the stomach there is less irritation of the mucous membrane. He observed the action of CO_2 and of the acid carbonates, as also of CaH_2CO_3 in a series of experiments with acid mineral waters. Alkaline fluids, on the other hand, delay absorption and the evacuation of the stomach, and the gastric walls are stimulated to secretion more strongly than by other solutions. Acids favor absorption and rapid evacuation of the gastric contents. Common salt in the stomach has not the advantages in regard to digestion heretofore ascribed to it, neither stimulating to greater excretion of the gastric acid (this perhaps may not apply to pepsin) nor to evacuation of its contents. In the moderation of the activity of the gastric walls by alkaline agents may probably be found an explanation of the therapeutic results of certain remedies, such as magnesium carbonate, sodium carbonate, and certain metallic oxides, in relieving the pain of cardialgia. The use of salts in the form of chlorides in neutral solution is, as regards gastric absorption, not advantageous, and still less so in the case of neutral carbonates, which are absorbed only in proportion as their transformation into chlorides takes place. The difficult absorptivity of ferrous chlorides is especially to be noted from a medical point of view, and considering the facility of absorption of acid carbonates, it may be assumed that an acid ferrous carbonate would prove the most absorbable of all iron preparations.

Sciatic Nerve Rupture Mistaken for Femoral Neck Fracture.—Dr. Kuster reports a case in which a guarded mistaken diagnosis of this kind was made by two physicians (*Berlin. Klin. Woch.*). Absence of crepitus and pain upon passive movement caused Dr. Kuster to diagnose rupture of the sciatic nerve (the symptoms were intense pain on pressure, most severe in the neighborhood of the hip-joint, outward rotation of limb, and apparent shortening, coming on after a fall), which was confirmed by the subsequent conduct of the case.

Ague as a Prophylactic of Phthisis.—The *London Medical Record* says: This action of ague is relative rather than positive; that is, phthisis occurs more frequently in regions where intermittents are not epidemic, and *vice versa;* we cannot say that, where intermittents are dominant, there phthisis is not met with—both diseases may occur simultaneously in the same person. Dr. Vieta (*El Genio Medico-Quirurgical*, January 15, 1883) describes his experience in Azagra, in the kingdom of Navarre. The situation of the town is damp and low; it is surrounded by the rivers Ebro and Ega, and formerly these constantly overflowed their banks, submerging half the town; the streets were unpaved, and full of holes, in which the water lodged. In the outskirts much hemp was cultivated, which, when cut, was macerated in pools, of which there were a very large number. Intermittent fever in its worst forms was very prevalent. Now the streets are paved, the rivers embanked so that they no longer overflow, and hemp is not so much grown, market-gardening being found more profitable. Intermittents are no longer endemic; a few simple cases occur, but the paludal cachexia is no more seen, and the cases yield readily to treatment. But with this diminution of intermittents there is a marked increase in the number of cases of chronic affections of the chest, and especially of phthisis, which was formerly almost unknown. Dr. Vieta does not attempt to account for this antagonism; he attributes the phthisis to neglected bronchial catarrh, and not to hereditary influence or diathesis, which does not seem to exist. He therefore hopes that improved hygienic knowledge and practice, leading the people to be more careful as to exposure, etc., will diminish the number of cases of pulmonary disease.

Tubercular Arthritis.—Dr. F. Arnaud (*Révue de Chirurgie*) concludes: 1. Tuberculosis of the synovial membranes is primary and independent of osseous lesions, or secondary (osteo-arthritis), and consecutive to the development of tubercles of the epiphyses. 2. Primitive tuberculization occurs in the synovial membrane under the two anatomical forms of grayish granulations and microscopic elementary tubercle. This elementary tubercle always accompanies the granulation, but it may exist alone, independent of any tubercle lesion visible to the eye. 3. Synovial tubercles have been found in fungous tissue, but may be observed in the absence of any fungous alterations, and also in the fistulous tracts in the walls of periarticular abscesses, especially where the new growth has developed by a true inoculation. 4. The tuberculous chronic arthritis may easily pass unperceived unless microscopic examination be made. It is important in arthritis, with or without osseous lesions, to make a complete histological examination of the synovial membrane and periarticular tissue. 5. Researches will ultimately demonstrate the tuberculous nature of certain white tumors of the soft parts, of fungous or non-fungous chronic arthritis, hitherto attributed to scrofula, rheumatism and unknown causes.

Relations of Aural and Renal Disease. — Dr. Burnett (*Polyclinic*, Feb. 15, 1884), concludes: 1. Evidences in favor of either frequent or well-marked aural lesions, dependent upon renal diseases, are extremely meagre. 2. Those lesions in the ear which have been found in connection with Bright's disease and diabetes mellitus, and which may have been dependent upon the dyscrasia induced by these renal disorders, are in the form of sero-sanguinolent and hæmorrhagic effusions into the drum cavity. But the latter must not be mistaken for the sthenic form of otitis media hæmorrhagica. 3. From the serous nature of the membranous structures of the labyrinth, organic changes might reasonably be expected in Bright's disease, but positive proof of the occurrence of such lesions, based on ante and post-mortem history, is wanting. Diabetes is not, as Dr. Burnett seems to imply, a renal disease.

A NEW METHOD OF URONALYSIS.—The following is reported (*L'Union Médicale*) as a new means of determining sugar in the urine. Ab der Haman, a celebrated quack, was forced to leave Algiers, and took his abode in the near neighborhood. A Frenchman belonging to the more-educated classes had diabetes and went to consult the charlatan daily, furnishing him with specimens of his urine at each visit. He also furnished a druggist with them to act as a check upon the Arab. The day that the latter announced to him the absence of all sugar in his urine the druggist corroborated the statement. The patient, astonished at the coincidence, and knowing that the Arab did not have resource to chemical agents, asked him what method he employed. "The thing is very simple," quoth the quack, "I throw your urine on the ground near an ant's nest. The earth absorbs the liquid and the ants come out in numbers, attracted by the sugar, which tends to remain upon the surface. To-day they have not come; hence, I conclude that there is no more sugar."

TUBERCULOUS INFECTION BY MILK.—Dr. Richard (*Révue d'Hygiene*, January, 1884) states: First, there is really danger of tuberculous infection from milk, but this is not so frequent as some have claimed. Second, the milk of tuberculous cows is inoffensive so long as the disease is localized in the lung. Third, boiled milk is innocuous, as boiling destroys the virulence of tubercle.

VAGINAL IMPERFORATION.—Dr. Demons (*Journal de Médecine de Bordeaux*, April 6, 1884) says that the genital organs of newly-born females should be more carefully observed than is usually the case, as vaginal imperforation may, as in reported cases, lead to serious consequences at the time when menstruation occurs, as surgical interference is at that time by no means devoid of danger.

LECTURES.

A LECTURE ON INTERNATIONAL COLLECTIVE INVESTIGATION OF DISEASE. By SIR WILLIAM W. GULL, Bart., M.D., F.R.S. Delivered at the International Medical Congress, Copenhagen, 1884.

Gentlemen, Friends and Colleagues: I deem it a great honor to be appointed to address you on this occasion, and on a matter which promises to contribute to the advancement of medical knowledge by a wider and fuller method than has yet been sufficiently attempted.

The subject of my address is the institution of an International Collective Investigation of disease. This object, I need not say, is intimately connected with the main purpose of these congresses; if not, indeed, in the natural course of things, an integral part of them. At present, we come together as individual cultivators and practitioners of medical science, each contributing his quota to our knowledge on this or that subject, which may or may not have been selected for thesis and discussion beforehand. Nor are our labors, even under these conditions, without excellent results. But a feeling is growing, and already widespread, that by a more organized combination, a more intimate and better co-operation, not only the members of these congresses, but all the workingmen of our profession throughout the civilized world, might sooner or later be organized into a body of fellow-workers, associated for collecting information on medical questions over the widest area.

There is, perhaps, no profession which enforces upon the individual members so strongly as does medicine the necessity of continued observation and intellectual cultivation; and there is no means by which this cultivation can be so well promoted as by meetings like the present, and by the active organizations, in the form of committees or sub-committees, which, we hope and anticipate, may spring from them.

The human intellect in its single and separate operation may produce wonderful results; yet, isolated as a man may seem to be in the intellectual labor which occupies him, he makes but little progress apart from the aid and co-operation of other minds which have worked and are working in the same direction. And though, doubtless, it will always be the privilege of the highest intelligences to clear the boundaries of knowledge, and to throw the rays of their genius into the surrounding darkness, yet all must be agreed on the great and almost supreme value of the intellectual co-operation of less-gifted minds in the simple observations of facts, and especially when the needed facts are scattered over a wide field.

However much apart, as I say, a man may seem in the work of his intellect, he is really much less so than he seems to be; for, as we cannot refer the strength of our bodies to any particular food that we have taken, so neither can we track the thoughts of our minds to sources whence they may have been fed; and, if our social nature has been raised from savagery to civilization by social combinations, it is even more necessary that our intellectual nature should be helped in its growth and nurture by such intercourse and association as are here presented, and which we now propose further to advance.

My great countryman, Bacon, has not generally been well received in the school of German philosophy; so that I must use some caution in citing him in favor of intellectual combinations in pursuit of the sciences. Still, on thinking over the bearings of collective investigation of disease, I could not but feel that, although three centuries have elapsed since he broached this question, and little has been done in it since, we might be about to realize his idea of a *novum organon*, the formation of a new intellectual machine for removing and overcoming the obstacles to our medical progress.

The purpose we have before us is no less than this: to enlarge and methodize intellectual co-operation, whereby not only the active, but the at present inactive, faculties of observation of the wide-spread members of our profession may be combined into one or more lines of energy. I am not unmindful how much this presupposes; how it assumes the combination of exact observation and record, with refined criticism and analysis; how it demands the highest scientific perception, with the humble collection of the meanest facts; how, in fine, it means the development of intellectual combination into many forms of organization which should not be one but many instruments of research. Such a forecast may, perhaps, lead us to exclaim, "Who is sufficient for these things?" Yet happily the answer is near. Time, though short for the individual, is inexhaustible in the race; the intellect is in its infancy, its powers of growth unexhausted; and to these, in their evolution, there appears to be no limit. The work to be done is unchangeable, and there are eager and willing workers in all lands, who only need the encouragement and direction of the master-minds of medical sciences to set them to work.

Happily, the phenomena which demand our investigation, though complicated and transient, are, it need not be said, the result of unchangeable laws. The capriciousness of Nature, as we speak of it, is but the weakness of our own sense and understanding, and its so-called mystery and obscurity but the darkness in ourselves.

The physiologist and the pathologist have to admit that not even in the caprices of man is there capriciousness; the mental caprices have their organic basis; that the whims, the fancies, and the prejudices of the human mind, not less than the changing activities of the functions of his body, or the revolution of the earth on which he lives, are the resultants of unvarying laws, unchangeable as the fixity of the stars on which he gazes with wonder and admiration.

We may therefore have this encouragement, that, when any of our work is done, however small and trifling it may seem, it is done and settled for all time, or at least so long as the laws of organization remain what they are; that the clearing of a fact in respect of disease will remain an imperishable inheritance of knowledge to those who follow us, so long as there is disease in the world. We may support our labors, therefore, with a feeling of surety that the problem before us is a settled problem, however difficult its solution. Nature will not delude us, however much we may delude ourselves.

If for these preliminary remarks I need any apology, might I not say I came from the country of Newton and Harvey, that I have traveled by the home of Spinoza, and that I am speaking in the presence of Descartes and Leibnitz.

Gentlemen, I do not appear here to-day on my own behalf, but on behalf of the Collective Investigating Committee of the British Medical Association of Medical Practitioners in the Kngdom of Great Britain and Ireland; and it has, I believe, affiliated associations in our colonies. It numbers from ten to twelve thousand members, all, or almost all of them, actively engaged in the practice of medicine. It is organized into about forty branches, with their presidents and committees. These branches have frequent meetings for the purpose of professional intercourse, and for reading and discussing papers on medical subjects. It has, moreover, a weekly journal of very extensive circulation, which records the transactions of the different branches, and supplies to its members lectures and communications on the most important current subjects in medical science. This Association has been founded over fifty years.

In putting arguments forward for the establishment of a National Collective Investigation in its more limited form, it was permissible to insist upon minor advantages to be expected from such association; I refer to its educational value, since it could not but happen that every co-operating member would learn much from the investigation proposed; and that, whilst he promoted science, he would no less promote his own intellectual status.

So much for the more limited, though not less important, advantages of national collective investigation; but in an international collective investigation the ground widens very much, not only from the different intellectual characters of its working members, but also from the greater variety under which disease presents itself.

The first gain, no doubt, will be from the intercourse and reaction of different national modes of thought with and upon each other. It need not be said that the ways in which any subject may be viewed do not depend upon the subject itself, but upon the varied capacity of the minds brought into relation to it. Minds evolved during ages under special local and national conditions, educated in lines of their own, cannot fail to give new direction and shape to the questions proposed for their solution.

All will admit that, in the daily routine of practice, facts are occurring that are worthy of record; and that medical science loses much by the want of such record. By the combination proposed, what are now casual and wasted observations, would be methodized and stored for arrangement, comparison and deduction.

The English Committee has proceeded as follows: Having first determined certain subjects for collective investigation, cards of queries have been framed, and distributed through the different sections, leaving each member to select such subjects as he might prefer.

No doubt, such records, even of a thousand families would contain singular revelations, and place many of our pathological ideas in quite a new light. We might learn that with tendencies to organic disease there was less tendency to epidemic influences; that, if diseases were prone to change their form and multiply, they were equally, if not more, prone to change in a reversion to health; that the occurrence of one disease might confer an immunity from another.

These memoranda are intended to be critical suggestions and suggestive criticisms on the state of knowledge respecting the subjects brought forward. Through them the influence of the more advanced intellects in the profession will extend through the whole of it, and will reach its most scattered and distant members.

The volumes I hold in my hand are the first published records of the Collective Investigation in England. They contain reports and memoranda on the communicability of phthisis, on acute pneumonia, chorea, acute rheumatism and diphtheria.

I would refer, by way of illustration of my remarks on memoranda, to the memorandum on acute rheumatism. This recites our deficiences on the etiology of the disease, and might also prove its pathology; the exceptional ways in which rheumatism occasionally develops; its probable relation to the state of the nervous system; the new aspect of the pathology of joint affections in relation to the spinal cord; the relation of the intensity of the rheumatic affection to anæmia; its clinical relation to tonsillitis; the intercurrent affections of the skin; and last, but, happily, not least, the treatment I might add, however—not as a criticism, but as a suggestion—that an exhaustive memorandum on acute rheumatism, showing the real state of our knowledge respecting this disease in all its relations, and the more than vagueness of our treatment of it, would have a value which I should find it difficult to express. Long-standing prejudices, which for the most part are entertained and fostered as if they were established and confirmed experiences, would go down before the exposition of such a memorandum, and its results in international collective investigation, as dry leaves before an autumn wind.

When inquirers on a given subject agree at the outset what are the imperfections of their knowledge respecting it, they naturally combine the more heartily in its further investigation.

The aspect of an inquiry from a personal standpoint, and from a collective investigation standpoint, present the most important contrast. In the one, the Ego, however in subordination, is not lost. It lurks at the centre of the operations, and the results or the supposed results of personal inquiry are too apt to be regarded as property, to be defended against all inroads, whether this property be worth defending or not. The observation and experience of any one man, however gifted, cannot be considered more than suggestive, and cannot have any authoritative value until confirmed by the repeated observation of others.

Whilst our English Association has, as I have described, put forward several subjects for collective inquiry with the memoranda and questions I have named, our German colleagues have determined upon a somewhat different method. They have selected but one subject for investigation, thinking it better to exhaust that before taking up a second or third ; and they have naturally selected a subject which at the moment prominently occupies the attention of the profession in all lands, I mean pulmonary phthisis. Upon this they have proposed four points for solution :

1. The heredity of the disease.
2. The communicability of the disease.
3. The cure of the disease.
4. The transition of pneumonia into phthisis.

These propositions are accompanied with many questions of detail which I shall mention presently. The English committee, at the beginning of last year, also proposed as a question for collective investigation the communicability of phthisis, and have reported upon it. The German inquiry is not yet reported upon. The important discovery of Koch that there is a specific organism associated with pulmonary tubercle, and his infection experiments, have naturally excited the greatest interest respecting the communicability of the disease. It is well-known that, at different times and in different countries, the contagiousness of phthisis has been confidently believed in ; and, as Professor Ewald remarked at a meeting of the Verein für innere Medicin, observers in America, in England and Germany, have supported the belief in the contagiousness of phthisis by important records supporting it. Still, until Koch's discovery, the professional mind was very much asleep about it, or with only now and then a half-waking dream.

I have stated just now that I appear here on behalf the British Medical Association for Collective Investigation; but I have to add that it is my duty to lay before you further what has been done by the Collective Investigation in Berlin. Within the short time that the Berlin Association has been in operation (spring, 1883), its activity and success have been remarkable. The Berlin Association had already, in February, 1884, nine months after its establishment, fifty-five branches; and Herr Leyden reported to the February meeting of the Verein für innere Medicin a communication he had received from Professor Rauchfuss, in St. Petersburg, informing him that they would establish there a separate Association for Collective Research, after the plan of that of the Verein für innere Medicin, and in relation with it. In Paris also, in the Société des Hôpitaux, there had been negotiations respecting the Collective Investigation of the Verein für innere Medicin, and a similiar one would be there arranged.

In the June sitting of the committee, under the presidency of Herr Fracentzel and Herr Leyden, Herr S. Guttman, the Secretary, reports that the German Association is daily making progress and exciting great interest; that on all sides, from Denmark, Sweden, Switzerland, Italy, Spain and America there were communications asking for information respecting this collective investigation, and with a request for the cards which had been issued.

With the Verein für innere Medicin, there are associated of the Berlin institution, the "Königstadt-Verein," the "West-Verein," the "Südwest-Verein;" and for the associated societies out of Berlin there are correspondents for the medical societies in Rostock, Schwerin, Gustrow, Munster, Minden, Arnsberg, Ratisbon, Paderborn, Aurich, Thüringen, Holland, Meran, Salzbrunn, Frankfort (on the Main), Koslin, Freiburg, Prague, Elbing, Mainz, Hanover, Gratz, Bochum, Frankfurt (on Oder), Hesse, Wiesbaden, Danzig, Memel, Marienwerder, Friedeberg, Lubeck, Chemnitz, Nürnberg, Bremen, Pomerania, Breslau, Giessen, Dresden, Posen, Essen, Halle, Kiel, Basel, Göttingen, Liebnitz, Riga, Davos and Marburg.

Further, there is an Association for Collective Research of the Institution for the Insane, and already Herr Jastrowitz reports a combination of twelve of these institutions in different parts of the country. There is also a similar movement for inquiry into the health and the disease of the inmates of prisons and infirmaries. In fact, our German friends have in many lines outrun us. Their exertions and their success in promoting this organization make it superfluous for me to add arguments in favor of the proposition before the meeting.

I hope I may congratulate this sitting of the International Medical Congress in Copenhagen upon the happy incident that we are to-day called upon to centralize these operations, which have begun in England and Germany, into an International Committee, of this Congress, whose function will be to promote them in all lands; and, by the continued co-operation of these congresses, carrying forward a movement, the fruits of which, as I have already said, it will be impossible to overestimate, whether we limit our view to the result on our members, on the profession as a whole, on the public good, or on the brotherhood of nations.

There is but one caution, and that lies against our attempting too much first. In our scientific ambition, it would not be difficult to o'erleap ourselves. It is by a little well done that we shall do much; whereas, if our deductions be hasty, incomplete and unfounded, the authority which will naturally attach to these researches will be much more obstructive to the cause of science than the fallacious dogmas of separate individuals. If our hopes and prospects are encouraging, the steps we take cannot be too wary. The purpose of our association could only lead to failure, and, perhaps, even a gigantic failure, if the movement were not waited upon by strict caution and exact criticism. If the work proceeds at the present rate, a few years will witness one of the greatest and most useful movements in modern times. The founding of an International Collective Investigation of Disease will promote the national movement of the same kind in all countries, and will give a stimulus to international emulation under the happiest form.

In the time at my disposal it is impossible to sketch, even in an outline, the number of subjects which claim attention. The committees of the different sections, as the work progresses, will select their subjects from their own point of view; some, with a broader purpose, will take the more common maladies, and the more curious the rarer ones. One of our English colleagues would have concise descriptions of rare maladies prepared as an entomologist would have them prepared of newly-discovered insects, printing distinguishing features in italics. He instances rhinoscleroms, Hebra's prurigo, morphœa, Alibert's keloid of scars, Addison's disease; cretinoid state in the adult (myxœdema); congenital absence of special bones (such as radius and tibia, with associated portions of carpus or tarsus); cases of spina bifida, illustrating either results of treatment or survival without it; cases of sacra, tumor; cases of "the recurring iritis in young persons;" aneurisms in the orbit; the ostitis deformans of Paget; disease of joints in ataxy ("Charcot's joint disease"); non-malignant growths in the tongue; hemiglossitis; Kaposi's disease.

The arguments for these more curious inquiries are not far to seek, since diseases which are rare in some countries may be frequent in others, and, by their frequency, afford the required ground for the study of their pathology. I might instance the glandular and the elephantoid diseases of China, and the successful labors of Manson and Meyers, which have traced them to the presence of the *filaria sanguinis hominis*, producing lymphatic obstructions and filarial thromboses. The elucidation of such a piece of pathology, though the disease be limited to China, must have a good influence on the whole medical mind in breaking down preconceived opinions, and in showing that we cannot go too far afield for our knowledge. It supplies, moreover, a further argument for the international collective investigation of diseases. — *British Medical Journal.*

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To Disguise the Taste of Iodide of Potash.—M. Gérard Lague (*Lyon Méd.*) states that syrup of gooseberry will completely disguise the taste of iodide of potash.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

AN ADDRESS ON ABDOMINAL SURGERY. By LAWSON TAIT, F.R.C.S., Eng. & Edin. Delivered before the Canada Medical Association, Montreal, August 26th, 1884.

Mr. President and Gentlemen: Every gardener knows that a plant long grown on the same soil rises or sinks or somehow or other gets to a level from which it varies not, so long as its conditions remain the same, and he knows as well that if he takes that plant to a new soil which suits it—if he grows it under new conditions—its growth, change and development are practically endless. What we know of plants is, within limits, true of humanity; and if we require proof and illustration of this, where need we go but to this endless continent of yours?

I am not at present concerned with natural boundaries created by languages which come from Sweden and Poland, Denmark and Scotland, Russia and Ireland, which temporarily limit intercouse between different peoples who perhaps settled here. Still less do I trouble about a line on the map which marks a practical republic on the south from a splendid democracy on the north. I have only to do with the great fact of human history—I think the greatest fact —that from out of the troubles and distresses of our Eastern countries, or out of countries oppressed by over-population, and still more by the effete policies of governments of past centuries dislocated into modern life, from these there has come a great country and a great people, whose growth, change and development promise to be practically endless.

Of my own country and my own people you will not expect me—you would not wish me—to say anything disparaging. We are an old and a respectable race, and, by virtue of your descent, you share that age, and you have brought over with you a full measure of the respectability. But in transit you have lost that questionable virtue of extreme conservatism which we retain in every conceivable phase of life. We used to have mail coaches protected against robbers by armed men, properly called guards, and we continue to call our railway servants guards without the slightest reason save that they seem to be in some fashion successors to the blunderbuss bearers of the eighteenth century. On the other hand, you very properly call the same officials conductors. We still build our railway carriages in compartments fitted to hold six people, confined boxes that are stuffy, inconvenient, wasteful of room, and dangerous, and we do this only because one hundred years ago we built our stage coaches on the same pattern, and we thought, and we continue to think, that by sticking three of these old coaches end to end we must of necessity construct the very best kind of vehicle for railway traveling. Untrammeled by tradition, you have continued to build carriages far more convenient and suitable in every way. You even sent them over to England for our use some ten years ago, but they had actually to be removed from our railways because the Public would not use them.

I might gather further illustrations of this intensely conservative spirit which governs everything English. I might wander into the regions of politics and religion and hundreds of other sources, but I prefer to take one of which I can speak at length and in detail—one upon which I believe, if I read aright the compliment you pay me by asking me to appear here before you, I can speak with some authority.

In my youth the medical education of a British student was not considered complete unless he had made a tour of the schools of France and Germany, and, like others, I felt of myself as was said of Proteus :

> " 'Twould be a great impeachment to his age
> In having known no travel in his youth."

But I wish now that the time and money therein spent had been directed to the Western instead of the Eastern Continent. And I now predict that ere long it will be to the medical schools of America that our students will travel, as did the apprentices of old before they settled down to the serious exercise of their craft.

For many years past I have been visited by numbers of my professional brethren from this side of the Atlantic, many of whom have settled down for days and weeks, and even months, to see my work. I have been overwhelmed by the kindliest invitations to visit this continent, but till now I have never ventured across. This delay is an instance of British conservatism, for it is very little the fashion amongst us to take long holidays. I have not had a holiday for seven years, and only the most eminent doctors in England take an annual outing ; but on this side I find that none of you think much of a trip across the water, involving leaving your business for three or four months, and, from what I have heard, the struggle for existence is as keen as it is with us, perhaps keener.

My American visitors have, one and all, impressed me with the feature of mind which I fear in England we do not possess—the power of judging any question solely upon its merits, and entirely apart from any prejudice, tradition, or personal bias. No matter how we may struggle against it, tradition rules all we do ; we cannot throw off its shackles, and I am bound to plead guilty to this weakness myself, perhaps as fully as any of my countrymen may be compelled to do. I may have broken free in some few places, but I know I am firmly bound in others ; and my hope is, that my visit to a freer country and a better climate may extend my mental vision.

To come to my intended illustration, let me briefly remind you of the early history of abdominal surgery. The first operation for the removal of an ovarian tumor was performed unwittingly, in 1701, in a Scotch village ; for Robert Houston began there a tapping, and finished by making a successful ovariotomy. It was not till 1809, eighty-six years after Houston's case was published, that his example was imitated, and even then it was not in Europe, but in the fresh soil of the backwoods of Kentucky that the young seedling obtained its first full growth, and from that time and from this country dates the history of abdominal surgery. But how slow the growth! In 1863 I heard my master, the Professor of Surgery in the University of Edinburgh, settle all this vast field of human progress in these few words : "Abdominal surgery is abominable surgery." Syme, the greatest surgeon by far with whom I have ever come in contact, shared the views of his colleague in this matter, and I fear that in both the sentiments originated far less in the merits of the question than in their mutual dislike (almost the only sentiment they had in common) of John Lizars, who, having read Macdonald's manuscript when it was sent to John Bell, was immensely struck by the success of the heroic Kentuckian, and was desirous of following his brilliant example. Most unfortunately for humanity, the success of Lizars was of a very doubtful kind, and abdominal surgery had to wait for the advent of Dr. Charles Clay and Mr. Isaac Baker Brown. The story of the latter brilliant and unfortunate surgeon is now a twice-told tale, and I can only repeat what I have said at length elsewhere—that his disastrous downfall was a misfortune for humanity, delaying as it did the progress of abdominal surgery for fully a quarter of a century. The whole question of this progress lay in the peculiarly narrow issue as to whether the pedicles of ovarian tumors should be dealt with inside the peritonæum or outside it.

Here, again, the new country was first in the race; for between 1820 and and 1830 the decision in favor of the intra-peritoneal treatment was given in America in such a way that the question ought never to have been reopened. The arbitrament of abdominal surgery between 1866 and 1876 was left in the hands of a man still living, and he carried through his practice a mortality so heavy as to be absolutely prohibitive of fresh enterprise. Mr. Baker Brown left off practice in 1866 with a mortality of ten per cent. with the cautery, whilst, after operating on a thousand cases, Mr. Spencer Wells had a mortality of twelve per cent. in the last hundred with the ligature, and over the whole thousand the mortality was exactly twenty-five per cent. With such results as these, the marvel is not that the conservative surgeons cried out twenty years ago that the craft was in danger, but that the removal of ovarian tumors ever became an accepted operation at all.

In 1878 the doctrines and practice of Lister, after twelve years of preaching on the part of Mr. Lister, had penetrated to London and were taken up by Mr. Wells and his assistants. I had practised all the details in their ever-varying form, as recommended by Mr. Lister, from 1866 onwards, and gave them up one after another as I found they disappointed and hindered me. Finally, I gave the spray and its adjuncts a long and complete trial—a trial far more careful in its details than anything I ever saw elsewhere, extending over three years. I have published in detail the disastrous results of this experiment, and at last gave up all these unnecessary dangers, and, since January 7th, 1881, my practice has been entirely free from all these details. Since then my example has been followed by Dr. Keith, Dr. Bantock, and by my colleague, Dr. Savage, and the only surgeon now who uses the Listerian details for abdominal surgery is Mr. Knowsley Thornton. He still claims for Listerism the most of our present progress, in spite of the fact that Keith, Bantock, Savage and myself have all far better results without Listerism than Mr. Thornton has with it. Mr. Thornton went so far recently, in a communication to Dr. ——, which that gentleman published, as to say that his (Mr. Thornton's) bad results in hysterectomy were due to the fact that in this operation the Listerian details could not be effectually applied. But the facts of the practices of Mr. Thornton and Dr. Bantock, the two surgeons to the Samaritan Hospital, settle this question when they are contrasted. Mr. Thornton uses Listerian details for hysterectomy as well as he can, and in twelve cases he has had five deaths, while Dr. Bantock does not use the Listerian details at all, and in twenty-two cases he has had two deaths. The explanation of the difference will be evident to every one who has seen both of these gentlemen operate. To see Dr. Bantock do a hysterectomy is a lesson in surgery, and one from which I learned a great deal.

To see my own work, I have been honored with the visits of a large number of surgeons of this continent, some of whom I see here now. I believe they, one and all, came with a belief that they would find I had some secret antiseptic agent, the use of which was the explanation of my success. If I have such an agent, it must be of universal existence in nature, for I have made some of my visitors take the water from the tap and put it into the basins for the sponges, and over the instruments and into the abdomen. I have made them drink it and have offered it to them for analysis, and, so far, I have not been detected in any magic exercise. My visitors always ask to what I attribute my success, and I answer that I cannot tell. They frequently suggest that it is climate. My answer is that our climate is the most variable and uncertain—the worst in the world. It is not fresh air, for the great majority of my operations, and always the worst, are done right in the middle of a large manufacturing town. If I may formulate my own answers, they would be briefly to this effect: I have given up my life to this work, and I engage in no other kind of practice; therefore, I have a constant weekly experience of five or six of these operations, sometimes as many as eight or ten. I pay the most minute attention to every detail, and maintain an absolute rule of iron over my nurses and my patients. I will not, if I can avoid it, operate in a private house, for there I have no control over either nurse or patient, still less over foolish friends. I can best illustrate the extent to which I carry discipline by telling an incident which occurred recently of a kind of which I have had a few, but not many, experiences. For my private hospital I have a rule that when a patient is admitted she must go to bed immediately. A lady with an ovarian tumor arrived, after a journey of some hundreds of miles, and was asked by the nurse told off for her to go to bed. She said she would not do so until she had seen me. The nurse assured her that I would not come near her till she was in bed. The patient remained obstinate, and I sent a message to her that she must either go to bed or go home again, and she elected to do the latter, with much satisfaction to myself. She doubtless thought, and you may think, the rule in question is an absurd one, but the absurdity is only on the surface. It is a test of the patient's obedience and confidence in me, and I know very well that with a patient who begins by disputing my orders and doubting the wisdom of my directions I never could get on, and, therefore, it is better for both that we should have an early parting. My nurses I always train myself—in fact, I will not have one who has had previous experience, for I know very well that such a woman will inevitably, to save herself trouble, do something in a way she has done elsewhere, and probably for some purpose altogether foreign to my intention, and will therefore become to me a source of danger and annoyance.

Finally, I give great personal attention to cleanliness in every detail of my work. I trust no nurses or servants without overlooking, and am constantly and at unexpected times turning up carpets, taking down shelves, and rooting out cupboards. In this way, and by a process of weeding, I have obtained a large staff of good servants, and have formed a large establishment in which every available precaution is secured. I can give no other reasons than these for my success, and probably they will commend themselves to you.

There are some causes intrinsic to the work itself from which the success has sprung to a large extent, and of which a few words may here be said with advantage. The first, of course, is the discontinuance of the clamp, of which I have said a great deal elsewhere. Whatever Sir Spencer Wells may say to the contrary, neither with nor without Listerism would anybody go back to the clamp. But the curious thing is that, from our recent experiences in hysterectomy, it would appear that it is not so much the clamp that has been to blame as Mr. Spencer Wells' method of using it. Hysterectomy must always be a more serious operation than an ovariotomy. But Dr. Bantock has now obtained better results in removing the uterus with the clamp than Mr. Spencer Wells ever got in removing simple ovarian tumors, and we must bear in mind that Mr. Wells always insisted that he used the clamp for his simplest cases, with long and easy pedicles.

Puzzling over this mysterious and startling contrast, I went to see Dr. Bantock operate, and amongst other things I found he had given up using perchloride of iron for the purpose of tanning the stump. I asked him why he had done so, and he told me he was quite sure that the use of the perchloride of iron had added greatly to the mortality of the clamp, because with a thick pedicle secured by a clamp it is impossible to accurately close the abdominal wound and prevent draining into the cavity. I did not at once accept Dr. Bantock's explanation, but I determined to use the perchloride no more. Like everybody else, I was prejudiced in favor of the statement made by Mr. Spencer Wells, that a putrefying stump would poison the wound; and therefore I could not make up my mind to allow it to remain without some kind of interference. Years ago, in blaming the clamp for high mortality, I had pointed out the likelihood of this incomplete closure as being one of the causes, if not the chief cause, of death; but I certainly did not suspect the perchloride of iron as being the fatal agent.

A few days after my interview with Dr. Bantock I had to perform a hysterectomy, and I dressed the stump with crystals of thymol. The patient died of peritonitis on the fourth day, and that the thymol had trickled into her peritonæum we had proof enough. Since then I have done a hysterectomy without dressing the stump at all, and the patient has done perfectly well. It will be curious, and no less instructive, if we find Dr. Bantock to be right, and that the use of perchloride of iron, the only contribution Sir Spencer Wells has ever made to abdominal surgery, should turn out to be the cause of his tremendous mortality. In any case, it is a remarkable example of how absurdly we are all governed by *a priori* statements, absolutely void of any argument in support of them, and, having been made by some with an authoritative name and position, are accepted without doubt. If Dr. Bantock's brilliant results are obtained by others in the same way, then we have been going on destroying women with perchloride of iron merely because Mr. Spencer Wells said we should use it.

As the whole aspect of abdominal surgery is, at the present moment, controversial—as the progress and practice of this part of our art form the chief objects of my life, you need not be surprised if I have made this address somewhat of a polemic. The greatness of the opportunity—the fact that an address given to you will be read where mere utterances of mine would be passed by—obliged me to take advantage of the opportunity you have given me, and to carry on the discussion. The course of this particular line of work has, as you are all aware, taken a sudden bound of activity within the last few years, and the reason is a very simple one. The immense success of the removal of ovarian tumors such as threatened to destroy life with absolute certainty, which followed the efforts of Baker Brown and Keith, led some of us, myself especially, to venture into regions where life was not necessarily, or, at least, not apparently threatened, but where suffering was persistent and unendurable, and where the sufferers had been proved by protracted trial to be outside the powers of ordinary remedial measures. In a recent paper by Sir Spencer Wells, published in the *Medical Times and Gazette*, the argument is completely dislocated and put in an altogether —— fashion, and therefore I must here give a little attention to the views of that writer. He tells us that ovariotomy had, at one time, a mortality of 70 or 80 per cent., but I know not whence he gets his information. Doubtless it would be possible to find occasional examples of surgeons with a limited experience having such a heavy death-rate, but such an isolated case would not yield a fair statement of the facts. I read a few months ago in an American medical journal that in Italy there had been 100 cases operated upon with 63 deaths, and the newspaper recorded the fact that 34 surgeons were engaged in the sanguinary work. But when the work of men who can be called ovariotomists is examined, no such results are seen. Charles Clay was the first man who did ovariotomy in England, and his maximum of mortality in his first series of cases was 40 per cent , and it speedily fell to 25 per cent., and this is pretty much what has been recorded by Sir Spencer Wells of his own practice.

In the paper of which I am speaking, Sir Spencer goes on to say that "afterwards, when the strictest hygienic precautions were supplemented by antiseptics, and improvements in operative details were generally adopted, success became so great that ovariotomy not only took its stand as by far the most successful of any capital operation in surgery, but the risk attending it in a favorable case could truly be calculated as little, if at all, greater than that attending any case of natural child-birth, and, as a necessary consequence, early operations can be advised with less hesitation." The statements in this quotation are wrong from beginning to end. In the first place, the mortality of ovariotomy in the hands of Keith and myself still remains at or about three per cent., and we have shown the least mortality yet available. The mortality of natural labor, on the other hand, is certainly not 25 per cent. The statement that a diminished mortality has led to early operations ought to be exactly reversed, for it is the early removal of tumors and the discontinuance of tapping which have largely contributed to our present splendid results. Sir Spencer Wells' teaching inculcated the practice of tapping, and its repetition until the patient was within measurable distance of the grave, but his successors have reversed all this with infinite advantage to their patients, and we now look upon tapping as a sort of surgical crime. This material alteration in practice led us, step by step, in the direction I have indicated, and we began to discuss the greater advantage to which I have just alluded. Every specialist is familiar with the large class of miserable women who wander about from hospital to hospital, or from consulting-room to consulting-room, seeking relief from their ailments unavailingly.

Let me take the first class to which Sir Spencer Wells alludes in his recent paper on cases of uterine tumor. There can be no doubt but that there are hundreds of uterine tumors that give no trouble at all, but these are not the cases that come to us. If a woman has no pelvic trouble, she does not present herself to the gynæcologist, and if she has a uterine tumor which gives rise to no symptoms, that tumor, of course, remains undiscovered. But when she suffers from distress occasioned by pressure on viscera, from severe hæmorrhage, or increasing size, she comes to us and asks for advice. Suppose we find her suffering from a uterine myoma, what are we to do? The answer to this question is like the answer to every other of a similar kind. If the tumor is small, the woman comparatively near her climacteric, and the hæmorrhage such as can be moderated by a rest in bed and the use of ergot, then she can be advised to let the tumor alone; but if the woman be not near her climacteric, and the hæmorrhage does not yield to treatment, especially after a fair trial of treatment the tumor is found to be actually going on, then surgical treatment is demanded.

Of course, each practitioner of medicine does, and always must, carry on his work in his own way, and there can be no doubt that within certain limits the measure of his success stamps the rightness or the wrongness of his methods. James Syme used to teach us that there were three methods of conducting our professional business, but that there was only one way to real success. He said there were three interests involved. The first in order is that of the patient; second, that of the professional colleague; and third, that of the practitioner himself. Syme insisted that the several interests should be rigidly kept in the order in which he placed them, or things would be sure to go wrong. I have never heard sounder advice. I have never lost sight of it, and so far as within me lay I have striven to follow it. In the proposal of a new proceeding two dangers clearly occur. The first is that of the enthusiastic upholder of the novelty; he may be disposed to run too fast on the new line. The second is that of the obstructive who, merely a believer in the times that are past, can see no possibility of their improvement. For the first danger the remedy is a wholesome scepticism, leading into just and careful criticism; the remedy for the second is more difficult, for it involves the patient endurance of much misrepresentation, and a protracted combat upon the points of criticism which have no weight in themselves, and have an importance gained only by persistent reiteration. In the line of practice of which I am about to speak, the point most persistently urged against our new line of practice is that unnecessary operations are performed. Now, this is an argument which it is extremely difficult to argue upon, because those who speak on the two sides of the question start from altogether different standpoints. Those of a past generation, like Sir Spencer Wells, apparently regard it as justifiable to perform operations in this department of surgery only when life is pronouncedly in danger; we, on the contrary, of the younger school, believe we are justified in extending our practice for the relief of suffering, and we regard this as a higher function than that of the mere saving of life. To end the discussion on this point, I would point out that our critics endeavor to apply an arbitrary rule for the repression of abdominal surgery which has never yet been applied in any department of the art. Let me ask, if we find a man suffering slightly with the early symptoms of a small calculus, do we not at once proceed to relieve him by removing it from his bladder? In fact, in the domain of what is general surgery, has it not become the established practice to perform operations which are accompanied by very considerable risk of life merely for the rectification of deformities, such as bowed-legs and knock-knees, which have not the remotest risk of life attached to them, and which involve no kind of suffering. The ultimate court of appeal comes then to be the patient's own decision, and I do not find that persons prefer to go on suffering pain and the disabling effects of profuse loss of blood rather than submit to a surgical operation, the details and effects and ascertained risks of which are completely and candidly placed before them.

In the treatment of uterine myoma two alternatives occur, and these are both the subject of very hot discussion on my own side of the Atlantic; they are the removal of the uterine appendages, and the removal of the uterine tumor itself by the so-called supra-vaginal hysterectomy.

No one in Europe, at least only one so far as I know of any importance, doubts that removal of the uterine appendages arrests menstruation completely in the great majority of cases, arrests the growth of uterine myoma generally, and in many instances causes it to entirely disappear. Mr. Knowsley Thornton, Dr. Savage, Professor Hegar, myself and others, have reported numerous cases in detail. I have published a long series in the *American Journal of Medical Science*, but Sir Spencer Wells dismisses us all in the brief sentence: "Vague, unsupported assertions have little influence upon the opinion of a thoughtful or a sceptical profession." Sir Spencer Wells must pass his retirement in some other occupation than in perusing the modern literature of his specialty, and therefore his criticism need hardly engage our attention.

The great majority of cases of uterine myoma, which come to us for surgical treatment, can be quite satisfactorily dealt with, and it is an operation having a small and steadily diminishing mortality. Since 1878 I have performed it many times with few deaths, but am unable to give the exact figures just now. The arguments used against it are, first, that of its mortality, but this mortality is the inevitable result of early work, and is therefore not a permanent objection. It was an objection urged twenty-five years ago against ovariotomy, but it no longer holds good against that operation. The second objection is that myoma itself is not a fatal disease, but this argument is not in harmony with my own experience. Even if it were a just one, however, it is admirably met by the plea entered at Ryde by Dr. ——, of ——, in the discussion of my paper on the subject, to the effect that it is to the rights and relief of the majority that we must have regard, and that the function of our profession does not end with the saving of life, but is chiefly that of relieving suffering.

Two other objections have been urged generally against the removal of uterine appendages—that it sterilizes and destroys the patient's sexual appetites. Of course, a woman is completely sterilized by a uterine myoma ninety-nine times out of a hundred, so that the process of complete destruction of fertility is a matter of little moment. The other objection has been shown to be perfectly groundless, but even if it were not so, it could hardly be urged on the ground of morality that a woman should go on suffering because she ought not to suffer any diminution of that animal propensity which it is the chief object of the higher life of all religious culture to subject, and the subjection of which forms for all creatures the greatest difficulty in existence.

There are cases of myoma demanding surgical treatment upon which removal of the uterine appendages seems to exercise no satisfactory influence. Mr. Knowsley Thornton has made a very valuable suggestion—one which certainly deserves very careful consideration—that all cases of myoma requiring interference are first to be subjected to the removal of the uterine appendages, and then to subsequent operation if it should be necessary. The only objection to this I can offer at present is an incomplete one. I have pretty well satisfied myself that there is one form of myoma on which removal of the appendages exercises no control. That variety I have named the soft œdematous myoma. But it is not easy to recognize this form of tumor until after it has been removed. Again, there are a few cases, very few I have found them to be, in which the appendages cannot be removed, and we must proceed to hysterectomy. Finally, the removal of uterine tumors has had such brilliant results in Bantock's hands that I am in hopes that a new era for hysterectomy is being opened out.

Another class of cases wandering about after relief are those upon whom I have operated in large numbers, and have found chronic and incurable disease of the appendages in the form of chronic inflammation of the ovary, chronic inflammation and occlusion of the tubes, these latter being occluded and distended by serum, pus or blood. When I first published my work on this subject there was, of course, a large amount of incredulity expressed about it, and this incredulity was not much lessened by the exhibition of a large number of specimens at various societies, and their permanent exhibition in the museums of the colleges of surgeons. Many, particularly amongst my metropolitan brethren, loudly asserted that there were no such diseases, and Sir Spencer Wells stated at the International Medical Congress in London that if such cases did occur they must all go to Birmingham. But Dr. Kingston Fowler has shown not only that they exist in London, but that they are far more fatal than I had any idea of, and that they have been and are overlooked and misunderstood in the metropolis just as they were overlooked and misunderstood in my own practice previous to 1878. Concerning this incredulity, please distinctly understand that I don't blame any one for it. It is a necessary part of all human progress. I don't even blame my metropolitan brethren, as they seem to think I do, for not discovering these cases and properly treating them. That is the fault of the mechanical school of gynæcology established by Simpson, and which still exercises a far too great influence over this department of our art. During the last twenty years displacements have had a great run, just as before that time everything was put down to ulceration, and no man considered himself properly armed for the treatment of disease, unless he carried a speculum and a caustic stick about with him in his gig. The mechanical school revels in the sound and pessary, both useful enough instruments in their proper places, but, when misused, capable of endless mischief, for many of the so-called displacements are now known to be constituted by chronically inflamed and adherent tubes and ovaries which can be relieved by removal only.

You will ask me, at starting, to tell you how this disease may be recognized, and I have to answer that their diagnosis cannot now, and probably never will, be a matter of certainty. They begin generally in some acute attack of pelvic inflammation, from which the patient dates all her troubles; and when you get such a distinct history you ought at once to be on your guard. This illness may have arisen, for instance, in a closely-confined and confessed attack of gonorrhœa; or it may be an attack of pelvic perimetritis, occurring after a miscarriage or a labor; or it may have arisen in one of the exanthematic fevers or a simple cold. In some of the cases, however, you get no clear starting point in the history, and then the diagnosis is generally more difficult. The symptoms are usually precise enough, yet, unfortunately, none of them are peculiar to the condition of which we are speaking. Pain is, of course, a leading feature; indeed, it is rarely without pain as a chief incentive that patients consult us at all. This pain is complained of as being constantly present, greatly aggravated by walking, and becoming intense for some hours or days before the period, and lasting throughout its continuance. Menstruation is usually too frequent and too profuse. In the great majority of the cases the uterus is somewhat fixed, and a tender mass can be felt on one or other side of it, perhaps on both sides and behind it. When the tubes and ovaries are down behind the uterus and adherent there—and this is by far the most common condition—the diagnosis to a beginner is very difficult. Nothing looks more certain and easy than the diagnosis of subinvolution and retroflexion, and without further consideration a pessary is introduced, with no other result than that of aggravating the patient's sufferings—in fact, I may say that at this point her troubles will begin to be serious, and she will wander about to collect various kinds of instruments from various practitioners, until she ends either a helpless and hopeless invalid or dies from an attack of acute peritonitis.

In some of my most marked and most successful cases there have been no physical signs whatever, and I have felt myself reluctantly justified in interfering only by manifest reality of the patients' sufferings.

Here let me just say a word about the much-discussed question of subjective symptoms. Everybody has heard the celebrated story told of Liston—that a hysterical girl persuaded him to remove a healthy limb for supposed disease of the knee-joint. But is there any other story of the kind known? If there is I have not come across it. We certainly do meet with women who will tell the most extraordinary and incredible stories about their sufferings; but the stories are so inconsequent and contradictory that there is no difficulty in discounting them. Besides, they have no support from the presence of corresponding physical signs. A woman whose story is real has a sequent narrative, and she will submit to treatment; while the woman who is a humbug flies off in a —— the moment the suggestion is made that she should submit to an operation in which she risks her life. I have never yet known a woman submit to an abdominal section in whom I did not find abundant justification for its performance, even in cases where I had been extremely doubtful about its real necessity before I undertook it. I have known many patients to whom I have made the proposal as a test of their reality, and who have, much to my satisfaction, speedily taken themselves off to some other practitioner.

Of the details in these operations in these cases I have no time to speak. Indeed, I could deal with them satisfactorily only in a series of lectures. Suffice it to say that the operations are extremely difficult, for the structures are always very adherent, and the operator has nothing to guide him save the erudition of his touch. Concerning the cases of occluded and distended tubes, some of my critics, without any experience, have suggested that something short of abdominal section might suffice for their successful treatment, such as tapping the tubes from the vagina. But a trial of this proceeding long ago satisfied me of its impracticability and its uselessness, and my growing experience confirms me in the conclusion that we have no alternative.

I am often asked concerning the subsequent history of these cases, and I am able to say I have published the details that the great majority of them are relieved at once and completely by the operation. There remains a tenderness of the stumps in some of them for some months. In four very bad cases fæcal fistulæ formed, but in two the sinuses have healed and the patients are perfectly well. In the third case the fistula opens still at occasional intervals; and in the fourth case, by far the worst I have ever had, the patient being literally at death's door when the operation was performed, the fistula still remains, some twelve months after the operation, but even here her health has so greatly improved that I am hopeful of its permanent closure in time.

I have occupied your time already at too great length, and yet have left myself no time whatever to speak of a great variety of topics within the limits of the subject of my address of which I fain would have spoken—subjects entirely novel, and full of the deepest interest alike to the practical surgeon and to him who takes but an interest of a literary kind in the progress of our art. In fact, it is a matter of regret to me that I cannot address such an audience as this in a series of lectures rather than in an address which must necessarily be brief. It is one of the great defects of a position such as I hold—a defect inherent to a special line of practice—that it practically shuts out its follower from any chance of being a teacher. Besides this, I feel strongly as acting to my own prejudice, and I am certain it is a misfortune that those who, like myself, are very largely engaged in work strictly limited to a department, can never communicate as successfully the results of their experiences as can those who are engaged in teaching. I regret, therefore, that I must pass over without mention the important field of new work which has been opened up within the last few years in the surgical treatment of the liver, spleen, kidney and intestines. I cannot even stop to speak of many other less striking, but no less important subjects, such as the treatment of pelvic abscesses by abdominal section and drainage, though all these are of less importance, in so far that they excite but little hostility; and what I have to say further to you I propose to limit to a brief discussion of a proposal made by Dr. Robert Battey for the production, artificially, of the menopause for the purpose of indirectly benefiting patients from conditions more or less neurotic, the symptoms of which are apparently influenced by the recurrence of menstruation. It must be perfectly clear to the most casual observer that this is a field of an extremely ill-defined character—one which, at first sight, offers very intangible prospects of success, and in which the indications even of success must be very vague and indefinite. There can be no doubt that a large number of women suffer in such a way as to make it perfectly clear that if they were relieved from recurrent menstruation they would be improved materially, but there can be as little doubt that the application of this idea—in itself a brilliant one—requires the utmost care. I have no sympathy with stupid obstructionists who, because they scent danger in the air, would absolutely prohibit its application; but I have sufficient regard for the expression of every kind of professional opinion to recognize the necessity for the full exercise of caution. When the proposal was first made, I recognized this so fully that I selected for whatever experiment I should make in this direction a disease concerning the reality of which there could be no doubt whatever: I mean epilepsy. It is a perfectly easy thing to recognize by two facts alone any case of genuine epilepsy from mere hysterical imitation. It was, I think, Dr. John Hughes Bennett who clearly established the facts that none but the true epileptics ever seriously hurt themselves during the attacks, and that after the fits are over the epileptic is always somnolent. It is certainly the case that in a large number of cases of epilepsy in women the incidence of the disease is concurrent with menstruation. It is also true that every epileptic woman, certainly whose case I have investigated, is worse during the menstrual week than at any other time. In some cases the epilepsy is absolutely limited to those days of the month during which the menstrual flow is in existence. It was, therefore, a perfectly easy thing to select a number of cases in which the experiment of Battey's operation seemed capable of justification. For the purpose of trying the experiment I selected six cases, and to these I have absolutely limited its application, though from the number of cases who have been sent to me for the specific purpose of having the operation performed, I suppose I might have been able by this time to have placed several series of attempts on record. The reason of my careful restriction has been that I did not care to prejudice the results of my other work by complicating it with what seemed to me a doubtful kind of proceeding, but all my care has been to some extent fruitless, for I have been persistently charged by a certain class of writers with having performed a large number of useless and unnecessary operations in removing normal ovaries from women suffering from nervous disorders. Indeed, so late as July 5th last, Sir Spencer Wells wrote the following sentences which, though they may have been intended for some one else, I cannot but suspect were leveled at me. They are as follows: "Just now something more than a word of caution against rash, dangerous and unnecessary operations is called for. We are startled by the reports of the removal of normal ovaries of young women suffering from nervous disorders, which may be exaggerated as imaginary; and it is to be feared that our professional honor is at stake, and that abdominal surgery in its latest developments is open to the denunciation hurled against the earlier ovariotomists, and that with more reason than in 1850. Lawrence's question must be repeated, whether such operations can be encouraged and continued without danger to the character of the profession, and West's assertion that the fundamental principle of medical morality is outraged, cannot now be satisfactorily refuted."

Though I am fairly familiar with the literature of abdominal surgery during the last ten years, I am absolutely ignorant of anything which can possibly justify such ridiculous exaggeration. I have publicly challenged Sir Spencer Wells to indicate the proceedings to which he alludes, and to produce the evidence upon which he bases his charges; but up to the moment of my leaving England he had not taken up to the gauntlet.

It is a somewhat remarkable fact that, in another journal of the same month, the same writer actually pleaded in favor of the removal of tubercular lungs, that such an operation would be justifiable if it saved one patient in twenty of those operated on, and it seems to me absolutely impossible to reconcile such a recommendation with the denunciation I have just read. So far as my own work in Battey's operation is concerned, in not a single one of the six patients operated upon were the uterine appendages normal. Two of them were carefully investigated by independent observers, one of whom was the well-known and accomplished pathologist Mr. Alban Doran, by whom the patients were fully described, and they were figured in the *British Medical Journal.*

The results of these operations were, in the first place, that all the patients made easy and uninterrupted recoveries; the operations were performed after the most careful consultation, and with the full cognizance on the part of the patients and their friends of the results which were certain, and the entirely speculative nature of those it was hoped would be obtained. As I have already published the cases in detail, with the exception of the last, which was only performed a few weeks ago, I need not here repeat them, save in general terms, and that is to the effect that in two cases the results are such as to completely justify the proceeding. In both of these, disease before the operation was so intense that it was threatening life, but now it is almost entirely subdued, and the health of the patients has been enormously improved. In one case, the disease was arrested for a year and a half, and though it is now returning the patient has been transformed from a wretchedly, feeble and broken-down girl into a healthy and robust woman, although affected by epilepsy almost as badly as before. In two others, the disease has been greatly modified, and the health of the patients has been immensely benefited.

From this brief record it is quite a matter open for discussion as to whether the continuance of the proceeding can be recommended, and I am bound to say that I have not myself a very strong opinion in the affirmative; but I think, if I had a daughter with feeble health, the result of pronounced menstrual epilepsy, I think I would advise her to have the operation performed. From what I have seen of it myself, I think there can hardly be any risk about it, and if performed with the precautions indicated, I do not think it can be brought under the sweeping category of Sir Spencer Wells as being either rash, dangerous or unnecessary. There is another argument, and I think one that may be said to have some moral force, in that it will assist in the prevention of the distinctly pronounced hereditary tendency of the disease, and we should at least hesitate before we entirely condemn it. Certainly a great deal more can be said for it than for the proposal of pneumomotomy for phthisis, on the assumption that the removal of a lung would only save one patient out of twenty. Removal of the uterine appendages for epilepsy would probably not kill more than one per cent., and I am certain it would materially relieve fifty per cent., it would improve the health of the great majority of patients, and I don't think it would make any of them worse than they were before the operation. I am hopeful, therefore, that the verdict of professional opinion will not be adverse to a fair and reasonable trial of Dr. Battey's proposal, and I trust that the freedom from the prejudice and the shackles of tradition which we find on this side of the Atlantic will secure for it a fair field.

And now, in conclusion, let me thank you most sincerely, and not only you, but many other professional Bodies and large numbers of professional friends, for the kindly, I may say overwhelming, reception I have met with at your hands. For many months before I left home there arrived hardly a mail which did not bring me invitations to partake of public or private hospitality, and these kind expressions of regard brought forth feelings of deep regret that my stay here could not be prolonged for as many months as it is limited in days. There is one thing in this reception I recognize above all others, and it is, that you are treating me not on account of any merits of my own, but as the representative of a large Body of men in my own land to whom you have owed much in the past, and with whom you are in the present united in a common bond of brotherhood and community of sacred purpose. I predict that in the future this union and unity will be more and more complete.

That it ever should be endangered would be a disaster for humanity. As the blunder of a century ago, which severed from the old country her most prosperous children, kept the whole progress of the world in abeyance for nearly two generations, so any future instance would be more disastrous still. God grant that we may never see it!

DISCUSSION ON MR. LAWSON TAIT'S ADDRESS.

Dr. Grant, of Ottawa, said he considered it a high honor for this Association to receive a visit from so distinguished a member of the British Profession as Mr. Lawson Tait. He had listened to his admirable address with the deepest interest, and had very much pleasure in moving that a very hearty and cordial vote of thanks be presented by the members present.

Dr. Brodie, of Detroit, said it gave him very great pleasure, as a member of the American Association, to join with his Canadian brethren in extending a cordial welcome to this distinguished surgeon. He heartily concurred in Dr. Grant's remarks, and would gladly second the motion.

Dr. McMillan, of Hull, England, expressed the pleasure he felt in meeting the members of the Canada Medical Association. He doubted the advisability of removing the ovaries when no objective signs were present. He thought that

Sir Spencer Wells' remarks on this subject were addressed more especially to young men, whose experience might be less than their enthusiasm, and not to men of large experience. Under the circumstances such words of caution were likely to have a salutary effect.

Dr. Trenholme, of Montreal, said he had performed the operation of removal of the ovaries twelve years ago, in a case where there was severe menorrhagia and metrorrhagia, with marked benefit to the patient. In recent years he had performed the operation frequently, and the results were, as a rule, satisfactory.

Dr. Hingston, of Montreal, contrasted Mr. Tait's eulogy of Canada with Dr. Knox's abuse of it, and agreed with the former. He congratulated Mr. Tait on his and Dr. Keith's disuse of Listerism in abdominal surgery, and thought the splendid results they had obtained were largely due to it. He thought with the speaker that the ligature should take the place of the clamp in securing the pedicle, and that the use of the perchloride of iron was a mistake. So far he was entirely with Mr. Tait, but there were some things on which he differed. He took exception to the criticism on Sir Spencer Wells, and thought that public opinion, which had pronounced unmistakably in Wells' favor, was not a bad criterion. He thought it highly dangerous to take Mr. Tait's rule for their guide as to the necessity of an operation, namely, that serious cases submit to operations and the hysterical do not. His (Dr. H.'s) experience was somewhat to the contrary; that the hysterical carried out their acting to the end, at least in America. He gave several instances of that in illustration—one especially, out of many, where he had been implored to remove the appendages in a young person—and when, on declining, the patient afterwards married, and all the symptoms had disappeared. He thought that when the objective signs were clear, no hesitation should be experienced in operating; but when the signs were altogether subjective, operations would be performed by Mr. Tait's enthusiastic disciples that were unwarrantable. This question had a moral bearing which did not crop up in some other operations. An unnecessary operation of this nature was a crime against society, and it interfered with the interests of the state. He thought sterility unnecessarily induced in this way was an unmixed evil; and subjective signs alone were misleading and not to be trusted. He did not agree with Mr. Tait that the operating surgeon could under those circumstances place the responsibility on the shoulders of the general practitioner who had advised the operation in the first instance. Responsibility properly rests in this, as in all other surgical operations, on the one called in the last instance not only to do the mechanical work, but also to counsel and advise as to its necessity. He gathered from the fact that only a few (6) out of several hundred cases of epilepsy had been selected for operation, that Mr. Tait had not pronounced strongly in favor of the operation in these cases, and here he agreed with Mr. Tait.

Dr. Brush, of Utica, N. Y., said he rose, with some diffidence, to make a remark or two upon the very excellent address of Mr. Tait. The subject of abdominal surgery, although falling outside of the special line in which his practice has been directed for some years—lunacy—was one in which he had always felt a deep interest. Under the tuition of Prof. Miner, of Buffalo, N. Y., his beloved preceptor, he saw some of his earlier operations which gave to the world the process of ovariotomy by enucleation, and it had been his pleasure to watch the impetus which that valuable and unique suggestion gave to abdominal surgery.

He regretted that the eloquent speaker did not refer to the removal of the uterine appendages in certain cases of insanity to hasten the menopause—but would, however, carry with him from this meeting a large amount of encouragement in the consideration of an operation which has for a long time been the subject of his thoughtful study. Prof. Wm. Goodell, of Philadelphia, has already reported a few cases, in the *American Journal of Insanity*, in which he had successfully performed Battey's operation for the relief of insanity in patients in whom there was marked increased mental disturbance associated with the menstrual flow. With these cases in view, and bearing in mind Mr. Tait's six cases in which he operated for the relief of epilepsy, and the statement which he has made, that a mortality of not more than one in five hundred need be feared in making the operation for the removal of the uterine appendages for the relief of nervous symptoms, he would go home with increased faith in the propriety—nay, even the necessity—of the operation in certain cases.

Dr. Heywood Smith said he quite agreed with what Mr. Lawson Tait had said as to the greater difficulty in the operation for removal of the uterine appendages as compared with ovariotomy. In coming to a conclusion as to the advisability of the operation, we ought always to bear in mind the difference between the rich and poor. A rich lady could afford to suffer—*i. e.*, she could afford to lie up and keep quiet and obtain medical relief—but a poor woman has to get her living, to exert herself, and could not, therefore, get that relief that was obtainable by her richer sister ; in her case, therefore, the necessity for an operation was more demanded than in the case of the richer.

As to the effect of the operation on fibroid tumors, his opinion was that it was of more use in cases of soft tumors than in those of a more dense structure. We had seen cases where, after the removal of both ovaries, profuse hæmorrhage continued so as to endanger the patient's life. But in the case of severe dysmenorrhœa, the result of chronic ovaritis and subsequent morbid changes in the ovary, we are convinced that the removal of the ovaries held out the best prospect of cure.

With regard to what Mr. Tait had said as to the carbolic spray, he must say that, in his opinion, cases could be operated upon with less risk with it than without. He also occasionally used eucalyptus. He was the first to use it in ovariotomy in London. It had the advantage over the carbolic spray in that there was no noise nor wet fog. In reckoning the advantages to different operations of the spray or the reverse, we must be careful to estimate the growing experience of each operator, and not hastily set aside Listerism under the idea that it is useless or worse, when increased success may most probably be due to the increased experience in operating. As an instance of what antiseptic measures could do, he would mention that at the chief Lying-in-Hospital in London (N. British), of which he had been senior physician for more than twelve years, the mortality during the past three years, during which they had used carbolic spray in all the wards, and otherwise carried out strict antiseptic measures, had been reduced to .062 per cent. He would also state, in answer to the remarks of another speaker, that, as a matter of fact, the removal of the ovaries did not interfere with the sexual appetite, nor did it make women scraggy ; on the contrary, many became plump after the operation.

Dr. Gardner, of Montreal, said he had been in the habit of removing submucous myomata, which caused dysmenorrhœa, menorrhagia and metrorhagia, with Thomas' serrated spoon, and would like to ask Mr. Tait if he considered the removal of the appendages more safe or more effectual in such cases.

Dr. Protheroe Smith, of London, Eng., referred to the fact that bleeding was very common in his younger days, and said he thought that the discontinuance of bleeding, by favoring congestion of internal organs, had made ovarian disease much more common in recent years.

Dr. Fulton, of Toronto, asked Mr. Tait if there were not cases in which tapping for the purposes of exploration was admissible. And if, in some cases where there was extreme distension of the abdominal walls, it was not safer to withdraw only a portion of the fluid at first to reduce the distressing symptoms.

Mr. Lawson Tait, in reply, said that as Sir Spencer Wells had never been reticent in knocking other people over the knuckles, he must not expect to escape from similar treatment. Doubtless Sir Spencer would continue the discussion after his own fashion. Mr. Tait had only to say that any criticism he had ever made of Sir Spencer Wells was with most friendly intentions, dictated by an intimate acquaintance extending over many years.

Dr. McMillan and Dr. Hingston had both somewhat misunderstood what he had said about operations performed in the absence of physical signs. Those cases were absolutely limited to three cases of epilepsy, and about three others in which the operation was urged, and the whole responsibility of its performance was accepted by the medical attendant in charge of the case. Such an instance was published by Dr. Ertulby in the *Lancet* about three years ago. Dr. Ertulby pressed me to perform the operation, and undertook its whole responsibility. As we found double pyo-salpynx, the operation was entirely justified. The real protection alike of patient and surgeon is the introduction of the family physician, by whose concurrence the possibility of the performance of an unnecessary operation would be reduced to a minimum.

It must, however, be remembered that surgeons who practise this department of the profession are as fallible as other human beings, and that with them mistakes must surely occur. They are to be judged, and their works also, by the same standards applied elsewhere, and not by others of an unjust and more exacting character.

In answer to Dr. Gardner, he would say that his own experience was wholly in favor of the removal of the uterine appendages as a far more safe operation than enucleation. Not only so, but as Mr. Tait had published cases where fresh tumors had grown after enucleation and removal of the appendages was ultimately required, he thought that the latter operation was in every way preferable.

Like his friend, Dr. Protheroe Smith, Mr. Tait carried a lancet, but only as a surgical curiosity ; he had never used it. There could be no doubt that ovarian disease was on the increase, but he could offer no explanation of the cause thereof. It certainly did not lie in the discontinuance of the practice of bleeding.

In reply to Dr. Fulton, Mr. Tait had only to say that tapping never could help in a diagnosis as an exploratory incision could, and it was quite as risky. A small two-inch incision revealed in most cases the precise nature of the tumor, and allowed all fluid to be completely evacuated, if nothing more could be done.—*Canadian Practitioner.*

THE SURGICAL SOCIETY OF PARIS. M. MARCUS SÉE, President, in the chair.

After the society had been called to order, the report was read of the committee for the organization of an

ANNUAL CONGRESS OF FRENCH SURGEONS.

This report gave rise to a lengthy discussion.

M. Boeckel then read the history of a case operated upon by himself for the

REMOVAL OF THE ENTIRE UTERUS PER VAGINAM

on account of cancer of the cervix. The operation was undertaken in October, 1882. After pushing the uterus as far down as possible, the posterior cul-de-sac was divided by a transverse incision, and the anterior part dissected away, so as to leave the organ attached only by the broad ligaments. A double ligature being placed on each, the ligaments were then divided. In the left broad ligament M. Boeckel found an enlarged and degenerated gland, which he excised. This was followed by a free hæmorrhage, which was arrested by hæmostatic forceps applied somewhat at random and left *in situ.* As the intestines showed no tendency to come out through the wound, no sutures were passed through the peritonæum. The vagina was tamponed with cotton dusted with iodoform. The patient seemed to be making a good recovery, until it was found that the urine was constantly passing away from a wound made in the left ureter by the hæmostatic forceps. The only remedy for this condition seemed to be

NEPHRECTOMY,

which was accordingly performed. The patient recovered promptly, and was discharged cured two weeks after the last operation. Seven months later, however, she died from cancerous infiltration of the vaginal walls and the neighboring glands.

From a study of this case M. Boeckel concluded : First, the antiseptic method renders justifiable the undertaking of very serious operations ; second, the total extirpation of the uterus should be considered an exceptional operation, to be undertaken only when the cancerous infiltration is localized.

M. Verneuil agreed with the author that hysterectomy ought to be undertaken only in exceptional cases. He thought that the treatment of carcinoma of the uterus by cauterization and local applications gave the best chance to the patient.

M. Terrier had recently performed this operation, and spoke of the difficulties attending it. One of the greatest of these is met with in pulling down the broad ligaments, so as to admit the application of the ligatures.

M. Polaillon did not agree with the author of the paper regarding the indications for the operation. He would operate only in those cases in which the entire organ, and not the cervix alone, is involved in the cancerous process. But if the new growth has advanced very far no operation is of any avail.

M. Lucas-Championnière had seen Billroth perform the operation in a case in which one of the broad ligaments was involved in the carcinomatous degeneration, and was surprised at the ease with which the removal of the organ was accomplished. The main difficulty, he thought, was one of diagnosis.

M. Terrier did not agree with M. Polaillon, but advocated the removal of the entire uterus. He thought that the attempt to destroy the new growth by the galvano cautery and chloride of zinc was not unattended with danger.

M. Trélat did not think the results obtained in the past seven years by extirpation of the uterus were such as to offer much encouragement. He himself had never had the courage to attempt it. Indeed, he thought there was little to hope for in any operation, as by the time that the patient fell into the surgeon's hands the disease was usually very extensive.

M. Bouilly was convinced, from experiments made upon the cadaver, that it was often impossible to depress the uterus sufficiently to render the vaginal operation practicable.

M. Polaillon stated, in support of his opinions, that the mortality in total extirpation of the uterus was one in three, while that from removal of the cervix was three in twenty. He had had two cases of removal of the new growth by the galvano-cautery and chloride of zinc in which there was no return of the disease after five years. Another patient, seventy-two years of age, operated upon by the same method, had remained well for one year.

M. Boeckel then exhibited a patient, seventeen years old, upon whom he had performed

OSTEOTOMY BY MACEWEN'S METHOD

for knock-knee. He had performed upwards of twenty osteotomies, and nearly as many osteoclasies. In one case he had ruptured the external lateral ligament; in another, a suppurative periostitis had been excited which required four months to cure, and in the third case there remained an incurable pseudoarthrosis.

At this stage of the proceedings the society adjourned. Upon its reassembling the discussion on

VAGINAL HYSTERECTOMY

was resumed by M. Verneuil, who stated that he had performed ablation of the cervix twenty times—twice for hypertrophy of the anterior lip, once for sclerosing metritis, which he had mistaken for an epithelioma, and seventeen times for cancer. Of the latter cases, one had died and two had been lost sight of after three years had elapsed without return of the disease. Of the remainder, the average duration of life after the operation was nineteen months. The speaker did not condemn the total extirpation of the uterus, but he considered that the existence of a limited epithelioma of the cervix was not a sufficient indication for the operation.

M. Desprès had removed the cervix seven times for hypertrophy of the anterior lip, and four times for cancer. He did not think that an operation was of much value in prolonging life, for the average duration of life in those not operated upon was eighteen months. When the general condition was bad, life was prolonged not one hour by the removal of the new growth.

M. Trélat was surprised that M. Verneuil should have had so many opportunities to practice amputation of the cervix, since the patients usually present themselves to the surgeon only after the disease has progressed too far to render this operation of any avail. He was in accord with that gentleman in respect to the methods of treatment employed, and he believed that these methods were the best adapted for prolonging life. He had seen patients gain flesh and be restored to apparent health under this treatment of the local affection.

M. Berger then made a report upon a memoir submitted by M. Kirmisson, entitled

INGUINAL ANEURISMS.

The author stated that the appearance of an aneurism in the groin is often preceded by an abscess or enlargement of the inguinal glands. Malgaigne and others had already noted this fact. As regards the treatment, M. Kirmisson expressed a decided preference for

LIGATURE OF THE EXTERNAL ILIAC ARTERY

over either mechanical or digital compression. Of the four methods at present in vogue he would retain two, those of Sir Astley Cooper and Marcellin Duval. The procedures introduced by Bogros and Abernethy he looked upon as dangerous. The author did not regard the wounding of the peritonæum as a serious complication, but on this point M. Berger differed from him very decidedly, and he insisted upon the necessity of laying aside the bistoury as soon as the aponeurosis of the obliquus externus had been divided. Secondary hæmorrhage, when it occurred, was to be attributed, M. Berger thought, to non-union of the wound and to suppuration.

M. Verneuil did not agree with M. Berger as to the cause of secondary hæmorrhage. It was due, he believed, to septicæmia. When there was no fever there was no cause to anticipate hæmorrhage.

M. Desprès, while believing with M. Verneuil that septicæmia was a common cause of secondary hæmorrhage, thought the accident was not less frequently due to mechanical causes.

M. Farrabœuf showed the excellence of Cooper's operation, by which the artery is reached most surely and by the shortest path. He agreed with M.

Berger that no cutting instrument should be used after the division of the aponeurosis of the external oblique muscle had been accomplished.—*Medical Record.*

Washington Obstetrical and Gynæcological Society.—At a regular meeting of this society, held October 17, 1884, the following officers were elected for the ensuing year: President—Samuel C. Busey, M.D.; Vice-presidents—W. W. Johnston, M.D., and J. Taber Johnson, M.D.; Recording Secretary—C. H. A. Klineschmidt, M.D.; Corresponding Secretary—Samuel S. Adams, M.D.; Treasurer—Geo. Byrd Harrison, M.D.; Committee on Business—Chas. E. Hagner, M.D., Lachlan Tyler, M.D., and S. S. Adams, M.D.; Committee on Admissions—J. R. Bromwell, M.D., H. H. Barker, M.D., and G. N. Acker, Committee on Publications—T. C. Smith, M.D., T. E. McArdle, M. D., and C. H. A. Klineschmidt, M. D.

SANITARY DEPARTMENT.

The National Value of Public Health.

Sir James Paget, in his address delivered at the inauguration of the juries of the International Health Exhibition, presented in a striking manner some of the losses arising from ill health, apart from and in addition to the cases of death. He said:

"I think, then, that we cannot escape from the reasons to believe that we lose in England and Wales every year, in consequence of sickness, 20,000,000 of weeks' work; or, say, as much work as 20,000,000 of healthy people would do in a week.

"The number is not easily grasped by the mind. It is equal to about one-fortieth part of the work done in each year by the whole population between fifteen and sixty-five years old. Or, try to think of it in money. Rather more than half of it is lost by those whom the Registrar-General names the domestic, the agricultural and the industrial classes. These are rather more than seven millions and a half in number, and they lose about 11,000,000 of weeks; say, for easy reckoning, at a pound a week, and here is a loss of £11,000,000 sterling from what should be the annual wealth of the country. For the other classes, who are estimated as losing the other 9,000,000 weeks' work, it would be hard and unfair to make a guess in any known coin, for these include our great merchants, our judges and lawyers and medical men, our statesmen and chief legislators; they include our poets and writers of all kinds, musicians, painters and philosophers; and our princes, who certainly do more for the wealth and welfare of the country than can be told in money. . . .

"Take, for example, such a disease as typhoid fever—that which Mr. Huxley has rightly called the scourge and the disgrace of our country. It has of late destroyed in England and Wales, among persons in the working time of life, nearly 4,000 in the year, Its mortality is about 15 per cent., so that if, in any year, 4,000 die of it, about 23,000 recover from it. Of these the average length o illness is, on the authority of Dr. Broadbent, about ten weeks. Here, therefore, from one disease alone, and that preventable, we have an annual loss of 230,000 weeks' work, without reckoning what is lost with those who die. And the same may be said of nearly all the diseases that are most prominent in the bills of mortality. The record of deaths, sad as it is, tells but a small part of the losses of happiness and welfare that are due to sickness. It is as if in a great war we should have a regular return of the numbers killed, but none of the numbers wounded, though these, more than the killed, may determine the issue of the war. . . .

"But, some may ask, can these things be prevented? Are they not inevitable consequences of the manner of life in which we choose or are compelled to live? No; certainly they are not. No one who lives among the sick can doubt that a very large proportion of the sickness and the loss of work which he sees might have been prevented; or can doubt that, in every succeeding generation a larger proportion still may be averted, if only men will strive that it may be so.

"Let me enumerate some of the chief sources of the waste as they appear to one's self in practice.

"Of the infectious fevers, small-pox might be rendered nearly harmless by complete and careful vaccination. Typhus and typhoid, scarlet fever and measles, might, with proper guards against infection, be confined within very narrow limits. So, probably, might whooping-cough and diphtheria.

"Of the special diseases of artizans there are very few of which the causes might not be almost wholly set aside. Of the accidents to which they are especially liable the greater part, by far, are due to carelessness.

"Of the diseases due to bad food and mere filth, to intemperance, to immorality—in so far as these are self-induced they might, by self-control and virtue be excluded. And with these scrofula, rickets, scurvy, and all the widespread defects related to them, might be greatly diminished.

"It can only be a guess—but I am sure it is not a reckless one—if I say that of all the losses of work of which I have spoken, of all the millions of weeks sadly spent and sadly wasted, a fourth part might have been saved, and that henceforth, if people will have it so, a still larger portion may be saved. . .

"We may become the more sure of what may be done by looking at what has been done already. Let me show some of it; it will be a relief to see something of the brighter side of this picture.

"In a remarkable paper lately read before the Statistical Society Dr. Longstaff says: 'One of the most striking facts of the day, from the statistician's point of view, is the remarkably low death-rate that has prevailed in this country during the last eight years.' In these years the annual death-rate has been less than in the previous eight years in the proportion of two deaths to every 1,000 persons living. The average number of deaths has been 50,000 less in the last than in the previous eight years. Doubtless many things have contributed to this grand result, and it is not possible to say how much is due to each of them; but it would be unreasonable to doubt that the chief good influence has been in all the improved means for the care of health which recent years have produced.

This is made nearly certain by the fact that the largest gains of life have been in the diminution of the deaths from fever, and of the deaths in children under fifteen years old, for these are the very classes on which good sanitary measures would have most influence.

"The annual number of deaths from typhus, typhoid, and the unnamed fevers has been about 11,000 less than it was about twenty years ago. The annual number of deaths of children under five years old has been about 22,000 less than it was; and that of children between five and fifteen has been upwards of 8,000 less.

"These are large results, and though they tell of only deaths, yet they bear on the chief subject I have brought before you—the working power of the nation; for, however much we might assign to improved methods of medical treatment of fever, yet the diminished number of deaths means a very large diminution in the total number of cases. The deaths during the working years of life were 6,500 less; and, this being so, we may hold that, if the average mortality was, say, twenty-five per cent., the diminution in the total number of cases must have been at least 25,000; and if we may believe, as before, that each of these involved ten weeks of sickness, we have, in these fevers alone, a clear saving of 185,000 weeks' work in every year. . . .

"It is said, whether as fact or fable, that the pursuit of science and of all the higher learning followed on the first exercise of the humanity which spared the lives of sick and weakly children; for that these children being allowed to live, though unfit for war or self-maintenance, became thinkers and inventors. But science and art are not dependent upon invalids; minds are not the more free or the better now for having to work in feeble bodies; each nation needs for its full international influence both health and knowledge, and such various and variable health that there should be few places on earth or water in which some of its people cannot live, and multiply, and be prosperous.

"If, therefore, we or any other people are to continue ambitious for the extension of that higher mental power of which we boast, or for the success of the bold spirit of enterprise with which we seek to replenish the earth and subdue it; if we desire that the lessons of Christianity and of true civilization should be spread over the world, we must strive for an abundance of this national health, tough, pliant and elastic, ready and fit for any good work anywhere."

Real Disinfectants.—Professor De Chaumont, in a lecture at the Health Exhibition on cholera and its prevention, exposed the untrustworthiness of many so-called disinfectants. The belief in a few of these disinfectants has come to be almost a superstition, and it has been too much played upon by some sanitary authorities, and even medical officers of health, who in times of small-pox have covered all available boardings in the parish with posters vaunting the epidemic virtues of disinfectants. Professor De Chaumont said: "In regard to disinfectants, there is but one true disinfectant, viz., fire. The majority of so-called disinfectants are simply deodorants. The idea that tobacco smoke or the odor of camphor is destructive of contagion is still extensively held, though it is simply absurd. A true disinfectant is a substance that will kill the germ or living particle in which the contagious principle resides, or through which it is conveyed." Acids, caustics and fire do this; what else can?

Sanitary Rights of Tenants.—The frequency with which people go to court for redress from injury suffered through poor plumbing makes the following comment of one of the New York City judges quite appropriate:

"It would seem, however, from the number of cases which come before the court for determination, that plumbing is deemed exceptional in its character.

"The roof may leak, the plastering give way, the doors and windows be broken, and other misfortunes incident to housekeeping may occur, and no claim is made that an eviction has been established, or a right of action has accrued against the landlord for the tenant's ill health; but if a pipe becomes filled up (by neglect or otherwise), or if the solder becomes loosened, or the pipe itself becomes deranged, or the main sewer is in such a condition as to empty the traps, the tenant for some reason claims that a different rule applies.

"Now, if a tenant elects to hire a house which empties into a sewer, with ramifications throughout his sleeping apartments, he does so with all the liabilities that such an election engenders, and with full knowledge that no plumber has yet been able to keep out the gas or prevent the smells.

"The repairs of a sewer-pipe are not different from the repair of a window or a door, and the distinguishing injury arising from such neglect is not only incidental and remote, but, as a matter of fact, is the result of the tenant's own election. He hired the premises with full knowledge of these connections, and the landlord is not chargeable with such consequential injuries as may arise from any defect that time and use produce. Under such circumstances, smells and even sickness are not only not extraordinary, but are inevitable; and I fail to see how this furnishes any ground of action against the landlord. . . . . The charge of concealment and deception in this class of cases is undoubtedly an outgrowth of anger, which has its source from the painful effects of such defects; but the law in its present state furnishes no remedy to the tenant that I know of, and it rests with the Legislature to make landlords and builders liable in such cases, for the common law throws the responsibility upon the tenant, and I know of no provision which exempts the plumbing or the sewer fixtures from these well-settled provisions."

A Lesson to be Remembered.—On the morning of Friday, September 1, 1854, the cholera suddenly attacked a number of persons residing in the subdistrict of Berwick, in the city of London. The outbreak was confined to the immediate vicinity of a well situated on Broad street.

This well was the centre of an infected district: "a person starting from thence and walking at a moderate pace would have got beyond its limits in three minutes" (English Rivers Pollution Reports). During the month of August preceding the outbreak, only twenty-six cases of cholera were reported to the London authorities from this district (Berwick).

The epidemic reached its height on September 2nd, and declined about fifty per cent. on the 5th; after which it dwindled off until the 20th, this day being the first on which no death took place. The total number of deaths in the district from the 1st up to this date was 609.

Investigation showed that about seventy-eight hours before the great outburst of the disease a child was attacked with cholera in the house No. 40 Broad street, and its dejections were emptied into a drain which ran within a few feet of the well. The water from this well was very popular with the neighborhood.

Analysis showed that it contained in 100,000 parts 137 parts total solids, and 7.72 parts organic and volatile matter. It was clearly shown that nearly all the persons attacked with the disease had drunk the water from this well.

In one case, an old lady and her niece, residing at a distance, had been in the habit of having the water sent to them daily. They both had cholera, while none of their neighbors contracted it.

The history of this well should be engraved on the mind of every sanitarian. The activity displayed by health authorities in searching out and stopping the water from city wells shows that it has not been lost on them. The use of such water for the preparation of aerated drinks is the more dangerous, since such beverages are prescribed for invalids.

The history of the cholera in Manchester and Glasgow illustrates most forcibly the importance of a pure water supply for cities. Until 1851 the people of Manchester and Salford obtained water partly from wells and partly from the River Irwell. Both these sources were much poluted with excrementitious matters.

In 1851 a pure supply of water was introduced into these towns. The following figures, taken from the report of the Rivers Pollution Commission, show the mortality during the polluted and pure-water periods:

"Total mortality in Manchester and Salford, polluted-water period: 1832, 890; 1849, 1,115; pure-water period: 1854, 50; 1866, 88.

The history of the disease in Glasgow affords evidence equally conclusive. Until 1859 the water supply was drawn from the Clyde, and was polluted by the drainage of towns higher up the river. After that year a pure supply was obtained from Loch Katrine.

Total mortality in Glasgow, polluted-water period: 1832, 2,842; 1849, 3,772; 1854, 3,886; pure-water period: 1866, 68. Mortality per 10,000 of population, polluted-water period: 1832, 140; 1849, 106; 1854, 119; pure-water period: 1866, 16.

These facts are not new to sanitarians who have studied the subject, and they can be multiplied to any extent desirable to prove the intimate connection of cholera with water supply. We repeat, then, we are glad to see that the health authorities in this city are so thoroughly alive to the necessity of inspection of wells, and are so strenuously in favor of preventing the use of the water from them for drinking purposes.—*Record.*

SELECTIONS.

SURGERY OF THE HAND—ESPECIALLY APPLIED TO RAILROAD INJURIES.

Read before the American Surgical Association at Washington, D.C., May, 1884, by JOSEPH W. THOMSON M.D., Paducah, Ky.

Man's usefulness and happiness in every calling in life depends to a great extent upon the hand. The hand is the most essential member of the body, as it is the means by which the intellect and genius of the mind are carried out and perfected. This makes the study of its anatomy and surgery of the first importance. Its perfect mechanism commands our admiration, and the beauty and symmetry of the human hand points conclusively to the high position man was intended to fill, and these suggestions taken together should invest the study of its injuries with much interest. Its constant exposure in every vocation, and more especially in this age of machinery, when the liability to such various injuries is so multiplied, demands on our part a thorough knowledge of its anatomy and surgery.

Every step made in the way of perfecting machinery increases the perils to the hand, and it remains for us to bring to bear every resource of investigation to establish a conservative practice in such wounds. The anatomy of the hand can only be thoroughly studied in the dissecting room. On the cadaver alone can we make ourselves familiar with its interesting and intricate regional anatomy. Practitioners so situated as not to be able to have the benefit of the study of the anatomical parts by dissection can secure a good knowledge by studying "Gray's Surgical Anatomy," "Holden's Guide," and Maclise's old, accurate and splendid plates. A thorough knowledge of the anatomy of the hand is essential as a foundation for the proper surgical management of its injuries.

The rich blood and lymph supply of the palm and the dense connective tissues cause the inflammatory action to be rapid in its course and soon becomes destructive to the soft tissues. As soon as the swelling and effusion require it, relief must be given to the distended tissues by a prompt and free incision, as by this treatment alone can the destruction of the parts be prevented. In cutting into the palm high up the surgeon must carefully bring to bear his anatomical knowledge and avoid wounding the palmar arches, which would result in troublesome and in some cases dangerous hæmorrhage.

Acute paronychia should be treated by prompt incision down through the periosteum, as neglect of this precaution is very liable to be followed by such destruction of the soft and bony tissues as to impair the functions of the finger or necessitate amputation. If the incision is early and thoroughly made relief with prompt recovery is generally the result.

Wounds of the palmar arches are among the most difficult injuries we have to contend with, and to treat such wounds successfully often taxes the ingenuity of the surgeon. The contrariety of opinions among the various surgical authors as to the proper treatment of wounds of the palmar arches is conclusive proof of the difficulties met with in this class of cases. In primary injuries a majority of opinions seem to be in favor of enlarging cautiously the wound and ligating the vessels. This may be proper in wounds of the superficial arch, but it does not seem admissible to extend the incision into the deeper fascia of the palm to secure the bleeding ends of the deep arch. In punctured wounds more especially is this rule applicable. Ligation of the principal vessel forming the arch, and compression of the opposite one, together with acute flexion of the forearm on the arm, will generally succeed in controlling the hæmorrhage. Ligation of both radial and ulna at the wrist and flexion of the arm is a good practice. If compression and other means have failed, and the palm and dorsum have become infiltrated and much swollen, it is sound practice to at once ligate the brachial artery, as it secures against further loss of blood.

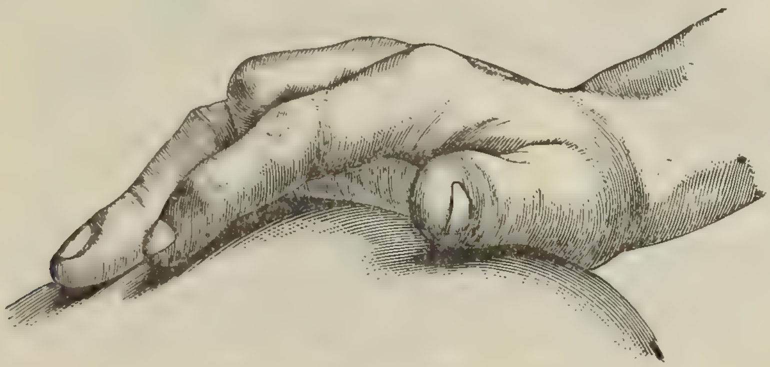
A patient with wound of both arches by the plunge of a knife was brought to me one week subsequent to the injury. Too much pressure had been applied, resulting in infiltration and sloughing, so that when the pressure was lightened copious bleeding would result. I ligated both the radial and ulnar arteries at the wrist and elevated the arm. Pulsation continued in the wound, and on the fifth day after ligation of the vessels hæmorrhage recurred. I then flexed the arm on the forearm and secured it in that position with a roller bandage. After this the hæmorrhage did not recur, and the recovery was prompt and satisfactory. I am inclined to think that the advantage of acute flexion in wounds of the palmar arch is not properly appreciated by surgeons. In many cases bleeding from the superficial arch can be controlled by judiciously applied pressure and flexion of the forearm on the arm.

In cases of the bones of the hand, a free incision extending down to the bone will usually suffice. In necrosis of these bones, cutting down on the diseased structure and removing the detached portions is a very successful practice. It may require several operations to secure a good result, but pursuing this course will often prove successful. By these incisions we secure thorough drainage, which is so essential. When we consider the ample lymph and blood circulation in the hand we can readily appreciate the superior tissue-making element it possesses, and can, therefore, safely give proper credit to nature's reparative power in injuries and diseases of the hand. Experience teaches that amputation of the hand or any part of it is seldom required for the relief of necrosis. As a rule, preference should be given to secondary amputations in hand injuries.

Resection of the metacarpal bones has proven a very successful practice, especially to the extent of removing the fragments of bone and smoothing the sharpened ends. If due care is given to preserving the periosteum, reparation of the part will generally be prompt and thorough.

Resection of the phalanges is seldom admissible, except those of the distal row. When it seems necessary to remove the first and second phalanges, it is better to substitute amputation, as a useless finger would be the result of resecting those bones.

Excision of the carpal bones is of doubtful propriety, and can scarcely be considered an established operation. Prof. Lister has given much attention to excision of the wrist, and claims it to be a successful operation, but I think the majority of surgeons look upon the propriety of this operation with much doubt. Most cases will terminate well if properly treated by free incisions, drainage and removal of the dead portions of bones as they become detached. In amputation, to remove as limited a portion of the finger as possible is in the main proper, but exceptions should be made to this rule in amputating the middle and ring fingers, especially among the laboring class. Experience satisfies me that among that class it leaves the most useful hand to remove the middle and ring fingers at the metacarpo-phalangeal articulation, as a stump from amputation of these phalanges in the continuity or at the first phalangeal joint, the flexor and extensor muscles having been severed, renders the hand comparatively useless, and is therefore much in the way of the laborer in performing his work.

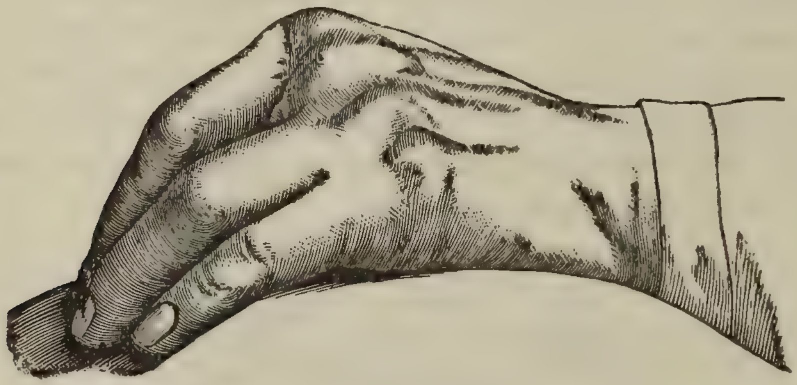


Cut No. 1.

Cut No. 1 exhibits the stump from amputation of the middle finger at the first phalangeal joint in July, 1883. This stump is comparatively useless, and from its position (as is plainly shown in the cut) is liable to be in the way when performing manual labor. The man informs me that he is so inconvenienced by the contact of the end of the stump with bodies that he handles, that he would much prefer that the finger was off at the knuckle joint.

The case represented by cut No. 2 presents the appearance of the hand with amputation of the middle finger at the metacarpo-phalangeal articulation. It will be observed that the hand is not very unseemly. The man assures me that the function of the hand is but little impaired, and that he does not meet with the inconvenience of other co-laborers with stumps from amputation of that finger. This man and the one represented with the stump of the middle finger are both still at work for the railroad with which I am connected as surgeon, and within the last week I have examined both hands and had them photographed.

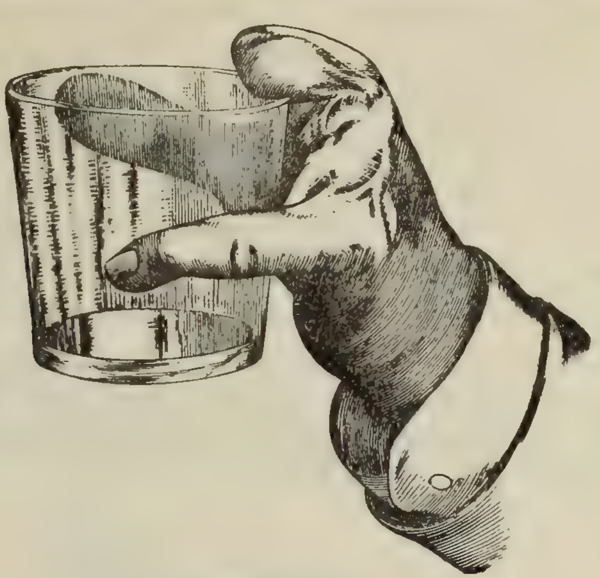
I have endeavored to present photographs of hands representing the various amputations of the fingers, and the extent of the function retained by the hands after the respective amputations, occurring in my practice. My position as Chief Surgeon of the Chesapeake, Ohio & Southwestern Railroad for the past two years has enabled me to arrive at the conclusion that it is often better to amputate at the knuckle joint. There are numbers that I could instance in which I have amputated fingers at the first phalangeal joint or in the continuity of the bone two years ago, and since that time, who are still working for the company, and therefore my opportunities for observing have been good as to the usefulness or disadvantage of stumps from removing the middle and ring fingers. I am now convinced that it gives a better result to amputate those fingers at the knuckle joint.



CUT No. 2.

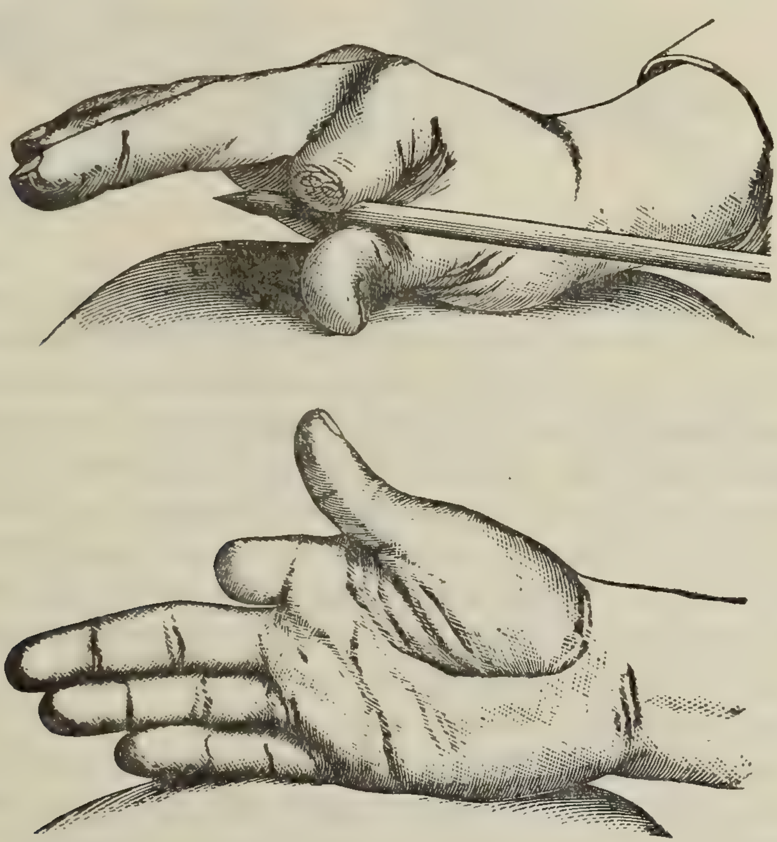
But with the thumb, index and little fingers the golden rule should be adhered to, viz., remove the most limited portion that will suffice. The thumb can be brought in apposition with all the other fingers and the palm, and is therefore the most essential and useful of the digits. Prehension can be performed with the thumb as the only digit, and the wide range of its usefulness should make it a positive rule to save as much as possible, regardless of the beauty of the stump. The same rule should be applied in every case to the index and little fingers. The apposition of the thumb with even a short stump of the index finger is very perfect, and prevents much of the impairment of the hand that would result if the index finger were amputated at the metacarpo-phalangeal articulation. With the little finger and thumb only remaining, the functions of prehension and other essential movements can be readily performed.

Mr. C.'s case, for instance, illustrates. The left hand was caught between the side of the work bench and a circular saw. The friction, the result of the rapid revolutions of the saw, opened the joints of the middle and ring fingers, and comminuted the bones of the second and third phalanges of the index finger. The tissues for half an inch above the knuckle joint of the middle and ring fingers were much lacerated. The patient was brought to me one month subsequent to the injury. It was now evident that the wounded parts would have to be removed. I amputated the middle and ring fingers at the metacarpo-phalangeal articulation, and the index finger at the first phalangeal joint.



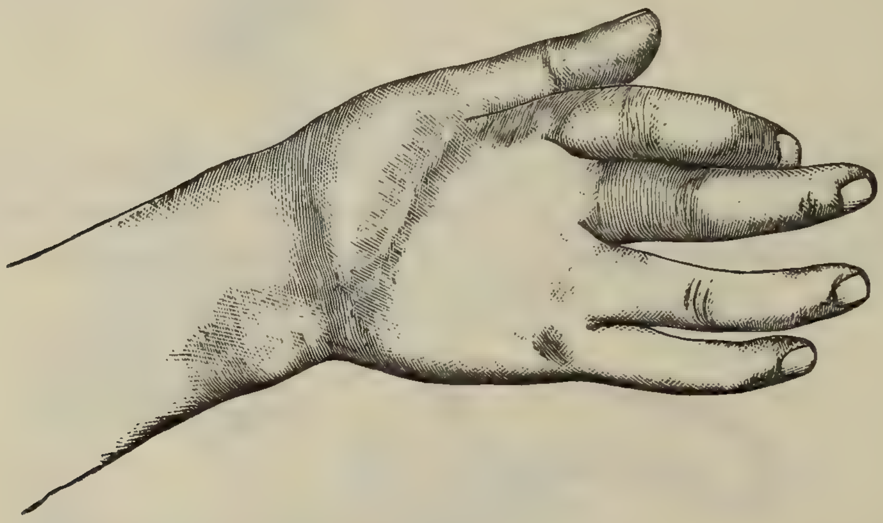
Cut No. 3.

Cut No. 3 shows the functions of the hand retained in grasping a tumbler. This case illustrates the usefulness of a hand with only the thumb, stump of the index finger and little finger remaining.



Cut No. 4.

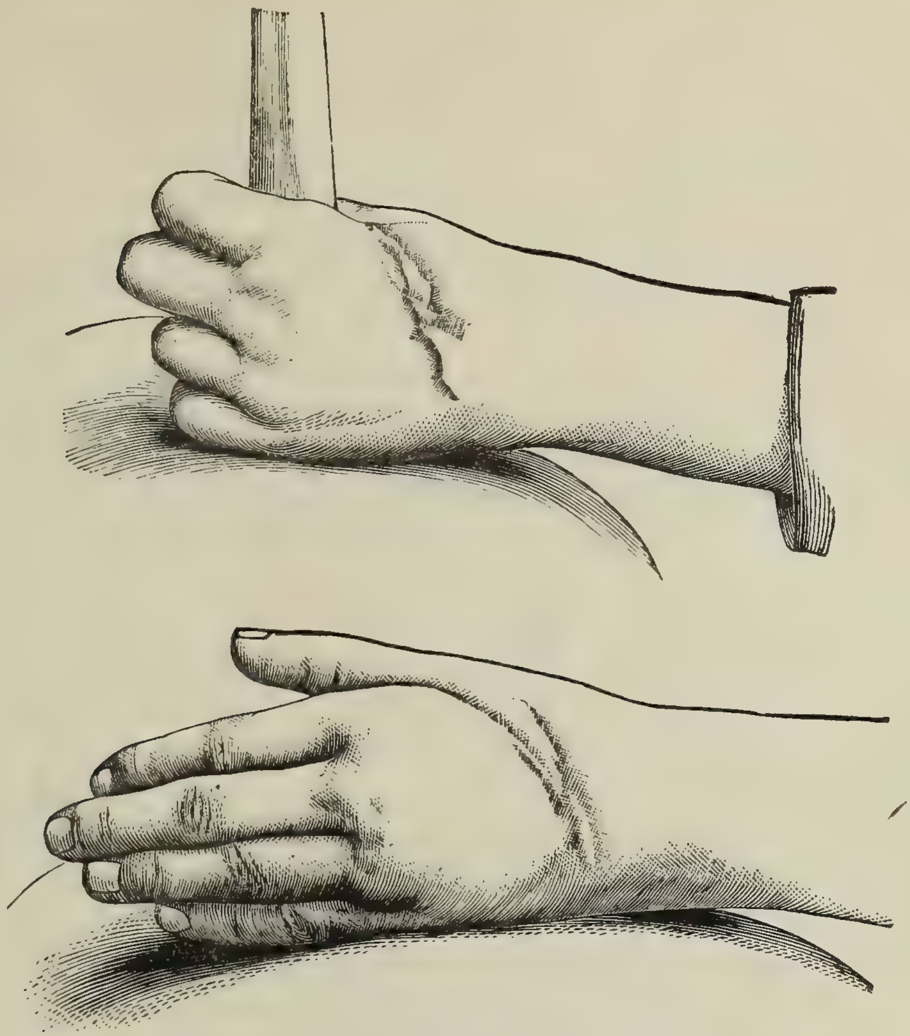
Cut No. 4 exhibits an unusual power possessed by the stump from amputation of the index finger at the first phalangeal articulation. It will be observed that the function of flexion and extension is good, which indicates that adhesion of the several flexion and extension tendons with the bone must have resulted. I prefer a good flap when it can be secured without too much sacrifice, as per rule given for amputation of the thumb, index and little fingers. In making these flaps we must not encroach on the palm higher than the fold of the joint. The flaps should be so adapted that the cicatricial union will be more on the dorsum of the stump—to prevent the irritation that would result from frequent contact with bodies if the union was in the centre. Among the laboring classes it is best not to remove the head of the metacarpal bone except when it is diseased. Among the higher classes it may be necessary to remove it to improve the aspect of the hand by allowing the neighboring fingers to be more closely approximated. The two cases of incised wounds of the metacarpal bones represented by cuts Nos. 5 and 6 tend to illustrate the conservative power of nature in hand wounds.



Cut No. 5.

The case illustrated by cut No. 5 was the right hand, and all the metacarpal bones of the fingers and the soft tissues corresponding were severed by an axe, except the tissues external to the little finger. The parts were adjusted as accurately as possible and supported by properly applied splints, and the carbolized dressings applied. The result is a comparatively good hand. The boy can plough, hoe, chop wood and do almost any kind of farm work. He was eleven years old when wounded, and is now fourteen. This was a patient of my friend, Dr. Irvan White, of McCracken County. I did not examine the hand until it had nearly healed, but Dr. White consulted me as to the treatment soon after the accident and I indorsed his course.

Cut No. 6 represents the left hand in which the metacarpal bones of the thumb and all those of the fingers, except that of the little finger, were severed with an axe. The parts were adjusted on splints and the recovery was prompt, with a most excellent result from such a severe wound. The hand is photographed in the straight and also in the flexed position, to demonstrate the function of extension and flexion retained by a hand which has been almost divided. Like the other case, it is so useful that he can perform the various farm duties. Age six years when injured; is now twelve. This case was treated by Dr. A. White, of McCracken County, Ky.



Cut No. 6. Flexed and Straight Positions.

The power retained by these hands goes to prove that the flexor and extensor tendons had united. Those two cases possess much interest for the surgeon, and demonstrate that the superior reparative power possessed by the tissues of the hand, when properly appreciated, tends much to establish a conservative practice in severe injuries, especially when aided by judicious treatment. The ages of these two patients—six and eleven—made them favorable subjects for conservative practice, as it is well established that conservative surgery has been more successful in children than in adults or old persons. Yet with the properly applied antiseptic dressing, even among adults or those of advanced age, we can to a great extent prevent fermentation or over-action in the wound, and thereby bring about early reparation of the tissues.

I have been much interested in the study of hand wounds, and am gratified with the success of my treatment. I am sure that success was due principally to the proper application of the antiseptic treatment. My experience satisfies me that many practitioners give too little attention to the aseptic remedies in the management of hand injuries, and in fact all classes of wounds. My rule is to first examine the wound carefully, remove all foreign bodies, including the spiculæ and sharpened ends of bones, and arrest the bleeding, which as a rule is readily controlled when the palmar arches are not involved; then wash the wound with a solution of carbolic acid, seven to eight drachms to a quart of warm water, and immediately envelop the hand with absorbent cotton saturated with ten per cent carbolized olive oil, and over this carefully apply a roller bandage. I prefer the roller to be made of Lister's carbolized gauze, though ordinary domestic does very well. If splints are required, adjust them and then place the hand in a comfortable sling. I do not remove this dressing for seven or eight days unless an unpleasant odor is developed, or the rise of temperature indicates threatened septicæmia. In the treatment of hand wounds and all classes of wounds, including stumps from amputation, I dress them as described, and do not redress them for the time specified above, unless the symptoms as given seem to require more frequent dressings. The result of this treatment has been very satisfactory, Often there is only the slightest formation of pus, and wounds so painless as seldom to require an opiate.

The second dressing is made as the first, but in each succeeding one I use the carbolized solution and carbolized oil one-half the strength of the first. While the wound is exposed in dressing it is constantly irrigated with a solution of carbolic acid. If the granulations become sluggish, I substitute iodoform for the carbolized applications, and in many cases with marked good effect. There has been no symptoms of carbolic acid or iodoform poison in my experience. I have not given solution of corrosive sublimate a trial as a local application in hand wounds, nor do I think it as well suited to such primary injuries as carbolic acid, as it does not possess the local anæsthetic properties of the carbolic acid. The success in controlling pain with carbolized dressings as I have used them is much to recommend them, especially to wounds that are so minutely supplied with sensitive nerve fibres as those of the hand.

In my railroad practice and in my private surgical practice I have adhered to the antiseptic dressings in hand wounds, applied as I have described.

I am governed by the thermometer in making more frequent dressings than I have stated. If the temperature rises to 101½° or 102° when two or three days have elapsed since the hand was dressed, I redress it. If the temperature keep under 101°, I do not remove the dressing for seven or eight days. As a rule with my hand wounds, the temperature in my experience very seldom rose to 101°, though some were very extensive injuries. The prompt reparative power possessed by the hand due to the rich supply of lymph and blood makes the antiseptic treatment especially adapted to these injuries. An antiseptic dressing that is properly applied often does not require to be removed for several days. It is well suited to the treatment of hand wounds, as considerable repair will be made in that time. Too frequent dressing is in the way of restoration of the wound by disturbing the delicate reparative process. This especially is the case with mashed and torn fingers, as injuries of the digits will make very considerable progress toward restoration before a properly applied antiseptic dressing requires removal.

It will be observed that I have seldom referred to authors. This paper is based principally on my personal experience in the management and treatment of railroad and other injuries. Hand wounds occurring on railroads are generally of the most severe type, mashed and torn, resulting from cars becoming suddenly jammed by mis-coupling. I have had rather extensive experience in this class of railroad injuries, and am gratified at the good results of the treatment I have adopted. It is comparatively rare that I have had to amputate the fingers or the hand, thus saving in the great majority of instances very useful members. I often thank Prof. Lister, whose genius has given us the true doctrine of the treatment of wounds.—*Medical Herald.*

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ORIGINAL CORRESPONDENCE.

BALTIMORE, August 28, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: I notice in the July number of your JOURNAL (p. 55) a report of two cases, one from "W. R. C." and another from Van Peyma (in a foot-note by the Editor), of delivery of child with membranes entire and unruptured, of which the Editor says: "The literature upon the subject is exceedingly scanty, and the cases very rare." In both these cases the labor was premature; in one the child, six months, was born dead, in the other, although it breathed and cried, it died about fourteen or fifteen hours after its birth.

Thinking it of interest to report and collect all such cases, I send you, in brief, the following, which occurred to Prof. Miltenberger of this city, with whom I am associated in practice.

On the night of October 30, 1883, was called to Mrs. J. S., in labor at *full term* with third child. Upon entering the chamber was greeted by the nurse with the exclamation that they were very glad of my arrival, as Mrs. S. had been suffering very much, and that just before the carriage stopped at the door something had passed from her. Turning aside the clothing, the ovum was found entire, the sac not ruptured, and the child moving and kicking within. Rupturing the membranes, there was removed a perfectly and fully-developed child of good size. This child still lives and flourishes. W. E. NEALE, M.D.

ALBANY, TEX., Sept. 15, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: You are cordially invited to attend a meeting of

Physicians to be held at Waco, on October 30th, prox., for the purpose of discussing the merits of electricity as a therapeutic agent, and, if deemed advisable, of organizing an Electro-Therapeutic Association for the State. At this meeting we hope to hear the following questions fully and freely discussed, and all of the practical truths in possession of those present given to the Profession :

1. What is the value of electricity as a therapeutic agent?
2. In what class of cases is it of most value?
3. In what form can it be used with most benefit?
4. To what extent can it be used beneficially by the general practitioner?
5. Will it pay to introduce it into general practice?

And such other questions as may be suggested.

It is hoped that this movement will be appreciated, and will receive the hearty approval of all the members of the Profession in the State who are eligible to membership in the State Medical Association.

We should do this to legitimatize the use of electricity in practice, and rescue it from the hands of the charlatans who, for years, have had sole possession; a fact which has caused it to be looked on with suspicion when proposed by the regular practitioner; a fact, too, which has deterred many from using it. It should be given the recognition by the regular Profession which its importance demands, in order that the People may know that it is regarded by the Profession as a legitimate remedy with which to combat disease.

A recent writer says: "For many years the influence of electricity, in all its forms, over the tissues of the body has been diligently investigated, and the application of electricity to the treatment of disease is now claiming the attention of the medical world more universally than at any previous period of its history."

Therefore, we hope each one may come prepared to exchange views on the subject, give practical experience, and to demonstrate his method of applying it in all cases by whatever kind of electrical apparatus or appliances he may possess. If you have had no experience with it, or have no apparatus, come anyhow, and participate in the discussion and join the society. Cordially and fraternally yours,

W. T. Baird, M.D., Albany, Tex.
F. E. Daniel, M.D., Fort Worth, Tex.
H. W. Brown, M.D., Waco, Tex.
C. T. Payne, M.D., and C. Y. Payne, Comanche, Tex.
S. H. Stout, M.D., Cisco, Tex.
W. T. Burke, M.D., Breckenridge, Tex.
S. W. Fields, M.D., Abilene, Tex.
S. D. Burroughs, M.D., Guy's Store, Tex.
W. B. Brooks, M.D., Fort Worth, Tex., and others.

Note.—Will be there in spirit, but, unfortunately, not in body. The movement has the best wishes of all earnest and true physicians.—E. S. G.

(Card from Dr. Dio Lewis.)

Office of "Dio Lewis's Monthly,"
Bible House, New York, August, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Sir: I have at length gained possession of my magazine—*Dio Lewis's Monthly.* Hereafter all communications to its editor or publisher, and all business about my books, must be addressed Dio Lewis, Bible House, New York.

Those who have sent money to others for *Dio Lewis's Monthly*, or for his books, and have received nothing in return, will please communicate with me at once.

Very respectfully,
Dio Lewis.

Benton, Ala., October 8, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Doctor: Be pleased to examine my favorite prescription and substitute for opium in obstinate intermittents and typhoid—powder of prussiate of iron and guaiacum:

℞. Prussiatis ferri,
Pulv. guaiaci, aa ℨi.
Misce et divide in chartulas xii.
Signa: One three times a day.

I successfully used this prescription in hundreds of cases in the Mississippi River bottom, while experience teaches me that in most malarial fevers it must be confessed by one and all that it is entirely owing to the idiosyncrasy of the case. Then is the proper time for a doctor to know exactly what to give and exactly when to give. It might be calomel and subnitrate of bismuth in broken doses, and oleum terebinthinæ, rubbed well with strong liniments to encourage diaphoresis.

Respectfully, W. Johnson Stoddard, M.D.

BIOGRAPHY.

Dr. Louis Alexander Dugas has just died at his home in Augusta, Ga. He was born in Washington, Ga., January 3, 1806. His parents were from San Domingo, in the French West Indies. After being educated by a private tutor, Dr. Dugas studied medicine in the office of Dr. John Dent, of Augusta. Then he pursued a course of study in the medical department of the University of Maryland, from which he was graduated in 1827. He passed four years in a study of European medical institutions, and finally settled down to the practice of his profession in Augusta. He united with five other physicians in 1832 in founding the Medical College of Georgia, and accepted the chair of Professor of Surgery. He retained this position until the close of his life. In 1834 he went to Europe and procured a library and an outfit for the college museum. During his brief sojourn in Paris he was elected to membership in the Geological Society of France. The University of Georgia conferred the degree of Doctor of Laws upon him in 1869. He held a membership in numerous literary and scientific societies in Georgia, and was President of the Medical Societies of the State and of the City of Augusta, respectively, for several years. During the International Medical Congress at Philadelphia, in 1876, Dr. Dugas was one of its vice-presidents. He became the editor of the *Southern Medical and Surgical Journal* in 1851, and retained the position for seven years. During the war he was a volunteer surgeon in many of the military hospitals. At the time of his death he was President of the Richmond County (Ga.) Academy. Dr. Dugas was the author of several standard medical works, and wrote many articles for medical journals.

Dr. F. A. Ross, a prominent citizen of Mobile, Ala., died October 17th of apoplexy. He was born in 1821, and was graduated at several institutions of learning, including the University of Virginia and the Pennsylvania Medical College. He served as surgeon of the Palmetto Regiment during the Mexican war, and during the war was the Medical Director of the Department of the Gulf, under the Confederate Government. He was at one time President of the Mobile Medical Society, and of the Alabama Medical Society, and Professor of Therapeutics in the Mobile Medical College.

JULIUS CONHEIM, the German pathologist is dead. He was born in 1839, and studied medicine in Berlin and other seats of learning from 1856 to 1860. He commenced to practice in Berlin, but was appointed assistant to Virchow in the Pathological Institute in 1864, from which time he devoted himself exclusively to pathology. He was subsequently, in 1868, appointed to the Professorship of Pathology at Kiel, which position he soon resigned to succeed Waldeyer, at Breslau. The discovery on which his fame will chiefly rest is that of the migration of the white blood vessels through the parietes of the capillaries in inflammations, and his formulation of the great truth that "without blood-vessels there can be no inflammation." His death was the result of gouty nephritis, and occurred on the 14th ult.

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PROFESSOR ATTFIELD, after a careful investigation, says: "In my opinion, given after well weighing all evidence hitherto forthcoming, the public have not the faintest cause for alarm respecting the occurrence of tin, lead or any other metal in canned foods."

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1.465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F. ..	equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz. " " ..	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " " ..	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F...		56 96-100ths grains.
1 fl. oz. " " ..		455 69-100ths "
1 fl. gallon " " ..		231 cubic inches.
1 fl. pint " " ..		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hook 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

CRITICISMS, FROM A CHEMICAL POINT OF VIEW, ON SOME FAVORITE PRESCRIPTIONS. By HENRY LEFFMANN, M.D. Read before the College of Physicians of Philadelphia.

The few points that I present to the college this evening will include little that is absolutely new, but I think the time will not be entirely wasted, as I know that the prescription list of most of our drug stores will give numerous examples of the violation of chemical principles here mentioned. My attention was called to this topic by my being shown by an apothecary a prescription calling for syr. hypophosph., tinc. ferri chlor., acid. phosp. dil., concerning which he said that in the proportions ordered he could never make the mixture up clear. I examined the precipitate, and found in it, as I had expected, a large proportion of the iron and other basic ingredients. This is a simple case of incompatibility. Turning the matter over in my mind, it has seemed to me that while some attention is paid to cautioning students as to the general nature of incompatibility, very little or none is given, especially in the shallow chemical teaching of many medical schools, to the properties and qualities of chemical substances in their relations to the animal tissues and the manner of administration. I present here, therefore, a brief consideration of a few well-known remedies.

Under the name of *colorless tincture of iodine* several preparations are used, depending for their popularity on the fact that they do not stain the skin. They are prepared either by the use of ammonia or of sodium sulphite or hyposulphite. They owe their particular property, or rather absence of property, to the neutralization of the iodine, and just to the extent that the iodine is decolorized is it to the same extent deprived of virtue. The free active affinity of the iodine, to which its local action must be due, is destroyed in these preparations, and the destruction is not slow or uncertain, but in two of the methods mentioned it is sufficiently rapid and definite to be made the basis of a method of quantitative analysis. It is certainly difficult to see how any person could go so wide of simple chemical principles as to invent or employ this mixture.

Potassium chlorate, or, as it is still erroneously called by many, chlorate of potash, is a remedy concerning which extraordinary claims have been made, based upon most erroneous notions of its chemical qualities. It is employed in the laboratory as a source of oxygen. Knowledge of this fact has led to its employment as an oxidizing agent in diseases which have been supposed to express deficient oxidation. I have nothing to say here as to the clinical results obtained from potassium chlorate in any disease—although I believe it is much less in favor than formerly—but I enter a protest against any advocacy of its usefulness as an oxidizing agent. Under temperatures and conditions such as those which it meets in the human system it is one of the most stable of bodies, does not part with its oxygen or chloride, and, indeed, will not begin to do so except under very high heat. I have found by actual experiment that ten grains of the salt kept for two hours at a temperature of 100° F. in contact with an artificial gastric juice did not develop oxidizing qualities sufficient to oxidize one-sixtieth of a grain of phosphorus. This experiment is merely confirmatory of what every-day experience with the substance teaches.

Potassium permanganate has been more or less in favor with physicians for a score of years. It is well known as an oxidizing agent, its powers in this respect are well marked. It is as little suitable for internal administration for such purpose as the body just considered, but for an opposite reason. Its chemical properties are developed by almost every substance, and in the doses in which it is given it will be decomposed and rendered inert very shortly after being swallowed. Within a very recent period the salt has come into notice as a remedy for amenorrhœa, and great has been the tribulation of apothecaries. It has been given in pill-form, and all the usual excipients have been unavailable. I have made a few tests of the permanganate pills now in the market, and I find, with regard to those made by one of the most reliable houses in this city, that the permanganate is all decomposed and converted into the insoluble manganese dioxide. The preparations of two other manufacturers made up with some mineral excipient, probably kaolin, were in good condition, but as soon as placed in a mixture of hydrochloric acid and pepsine they begin to decompose into insoluble manganese oxide. These pills vary in strength from one-eighth to one grain. This small quantity of permanganate certainly must soon decompose in the stomach, and the only virtue which it can have is from the manganese itself, and if this is effective common sense would seem to suggest that the result could be best obtained by exhibiting some definite compound of manganese, such as the chloride or sulphate. When we consider the chemical relations of the salt, and almost certain inertness of it in small doses, the gravity with which the learned English therapeutists, who recommended it in amenorrhœa, have discussed the possibility of its producing abortion, becomes almost a burlesque. I do not desire, of course, to impugn the clinical observations that have been recorded on this point, but I feel obliged to say that if the insoluble and variable decomposition products of one-eighth of a grain of potassium permanganate can affect the function of any one organ, then the difference between us and the apostles of the infinitesimal is small indeed.

I cannot dismiss these two compounds, which owe their popularity to mistaken notions of their properties, without saying a word or two as to the exhibition of oxidizing agents. If rational therapeutics or physiological study indicates remedies of the so-called oxidizing class, then it will be found that no better agents are known to us than those which have long been in our hands. In nitric acid, nitro-muriatic acid, and chlorinated soda we have substances which are sufficiently stable to resist the organic bodies of the saliva and gastric juice, and are sufficiently active to give oxidizing effects if such (other than local action) can be obtained. I have grave doubts whether the nutritious fluids of the body can be oxidized by any method, but there can be no doubt whatever that such effect cannot be attained by neither a body—potassium chlorate—which yields its oxygen only at a red heat, nor by one—permanganate—that decomposes the moment it touches any form of organic matter. Some years since a correspondent in one of our medical journals gravely recommended the use of raspberry syrup to disguise the taste of potassium permanganate It was, of course, entirely successful, the taste was destroyed, for so was the compound.

Caffeine citrate is a remedy much in favor, and is a remarkable instance of how much physicians take for granted in the remedies they use. There is no caffeine citrate in the market, and it is doubtful whether any such a salt can be prepared. The commercial preparations are either pure caffeine, or variable mixtures of it with citric acid.

The manufacturers in this city each furnish a different article, except in cases in which they buy from a common source; and a house in a neighboring city furnishes an article which contains no critic acid. Some of the samples are purely bitter in taste, while others are distinctly sour. Analyses of some of the commercial salts are recorded in a paper read before the last meeting of the American Pharmaceutical Association by Dr. G. C. Wheeler. He found the quantities of caffeine varied from 96.5 per cent. to 63.5 per cent.; of citric acid from 63.5 per cent. to 3.5 per cent. None of these figures correspond with the proportion of a true citrate.

It seems to me that accurate clinical observation cannot be made with a preparation of so uncertain a character; for, as seen by these figures, the proportion of active ingredient may vary thirty-three per cent., and the lesson that these analyses teach us is that when the effects of caffeine are wanted they are best obtained by the use of the pure alkaloid, and not by a pretended and uncertain compound of it.—*Boston Medical and Surgical Journal.*

Quinine Bisulphate.—The United States Army this year contracted for eight thousand ounces of bisulphate of quinine, and thus far has not bought any of the ordinary sulphate. The fact that the ready solubility of the bisulphate enables it to be dispensed in aqueous mixtures, as well as the equally well-ascertained fact that this ready solubility renders its action more prompt and certain, are probably two of the chief reasons why this salt was given the preference. Outside the army the bisulphate has been steadily gaining in favor. It can be afforded at a price slightly lower than that of the sulphate, and, in equal doses, seems to be equally efficient. It contains from fifty-nine to sixty per cent. of alkaloid quinine, while the ordinary sulphate contains about seventy-five per cent. Should the experience of army surgeons be satisfactory, this soluble sulphate will probably be much more largely used in the future.—*The Druggists' Circular.*

A Valuable Mercurial Powder.—Dr. W. Bird, in the *Med. and Sur. Reporter*, describes a very valuable preparation of mercury, from the use of which he has never known a case of salivation to follow. It is prepared by rubbing one part of mercury and nine of sugar of milk by weight in a mortar, until the globules disappear and the color of the powder assumes a decided blue tinge. A most thorough trituration is necessary. Dr. Bird has found that a combination of five parts of the mercurial powder to one of ipecac by weight is a most valuable combination in fever with intestinal irritation, or in dysentery, and is specially valuable in low forms of fever, with a dry, red tongue, or dry, furred tongue of a brown or yellow color. It is given in doses of from two to ten grains—*Ind. Med. Jour.*

STIGMATA MAIDIS.—Among the new remedies with which the materia medica has of late years been enriched, there are few which have sprung into greater prominence, and which manifest evidence of a more tenacious hold on the regard of the medical practitioners, than the stigmata of maize—the "silk" which embellishes the stalk of our common corn. It may seem somewhat incongruous to call an article with which the people of this country have been so long familiar a "new" remedy. The adjective, however, as in the case of many other new remedies, so-called, has reference rather to the discovery of some therapeutic property than to the drug proper. Corn-silk is, therefore, a new remedy, from the fact of the comparatively recent discovery of its properties as an emollient, antiseptic and diuretic. Under its lenitive action the inflamed surface of the genito-urinary tract, and more particularly, perhaps, of the bladder, as in vesical catarrh, is soothed, and the decomposition of urea into the irritant ammonia salts is checked. The flow of the urine is at the same time augmented, and thus we have a combination of the very effects which an intelligent comprehension of a case of vesical irritation would seem to dictate on the part of the therapeutist. The demand for corn-silk has been rapidly growing since attention was first called to it by Drs. Dassun and Dufau, of Paris, and Professor Castan, of Montpelier. The fluid extract must be made from the recent drug, and hence can be prepared only during a few months in the year. The demand, however, for this fluid extract has been in excess of the possible supply during the past year, leading to the substitution, by unscrupulous manufacturers, of a worthless article for the freshly-gathered corn silk, much to the detriment of the reputation of this drug. Messrs. Parke, Davis & Co., who were the first to place a preparation of stigmata maidis before the profession of this country, with the return of the season have laid in a large supply of the drug in anticipation of a continuance of its popularity. Competent employés of this enterprising house have for some time been at work in the cornfields of the West laying in a stock of the green drug, and suitably preparing it for preservation until it is made up into the form of a fluid extract. In view of the facts above stated, it is important that those who may have occasion to employ corn-silk may know whence they may obtain a reliable preparation.

THE ELIMINATION OF MERCURY DURING AND AFTER ITS CUTANEOUS EMPLOYMENT.—In a reprint from the *Journal of Cutaneous and Venereal Diseases*, vol. i., No. 12, Dr. Schuster, of Aix-la-Chapelle, gives the results of more than one hundred examinations respecting the elimination of mercury in syphilitic patients who were either still under treatment by mercurial inunction, or who had been thus treated for a time varying from one to twelve years. At first, only the urine was tested, by the Ludwig-Fürbringer method, modified by Schridde. Mercury was thus found often in small, but rarely in large quantities, during, and some weeks after, the mercurial treatment. Frequently, however, mercury was not found in the urine. Dr. Schuster, therefore, proceeded to examine the fæces, and found that mercury was always present in them. The result of forty examinations of the fæces was that mercury was found regularly in relatively large quantity during mercurial inunction. The earliest examination was made ten days after the beginning of treatment. Mercury was found in the fæces for five and a half months after the end of the course, the examination being made at intervals of from ten to fourteen days. Mercury was found in the fæces in all cases in which it was found in the urine; but it was frequently absent from the urine when it was found in the fæces. From this Dr. Schuster draws the following conclusions: 1. The elimination of mercury by the fæces is regular and continuous. 2. The elimination of mercury introduced by a course of inunction of from thirty to forty-five days is completed in six months. 3. Persistence of mercury in the organism does not occur.

REVIEWS.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. CLOUSTON, M.D. Edinburg, F.R.C.P.E., Physician Superintendent of the Royal Edinburg Asylum for the Insane, Lecturer on Mental Diseases in the Edinburgh University, Etc. To which is added an Abstract of the Statutes of the United States and Territories relating to the Custody of the Insane. By CHAS. F. FOLSOM, M.D., Fellow of the American Academy of Arts and Sciences, Assistant Professor of Mental Diseases, Harvard Medical School, Etc. Philadelphia: Henry C. Lea's Son & Co. 1884. 8vo cloth, pp. 55.

The present work, while undeniably meritorious, is far inferior to every work on insanity published in the United States, with the exception of the work of Dr. Mann. The author is permeated by the so-called practical spirit of the "busy practitioner." He ignores, in a very striking way, American authorities quoted in most European countries. He makes some curious blunders in the use of terms: necrophilism is not, strange as it may seem to Dr. Clouston, cannibalism, but a desire for sexual relations with the dead. Dr. Clouston has not a very clear idea of what is meant by a systematized delusion, and is not very clear as to the patho-psychology of hallucinations. His experience with the insane is limited to such stages of insanity as come within the hospital for the insane. He is not well read in the recent literature of his subject, and many of his descriptions illustrate that, while a fair clinician, he lacks the power of collating his observations. There are certain mooted points on which his experience is of value. Like every honest and experienced alienist, Dr. Clouston admits, and proves, by cited cases, the existence of moral insanity. He scouts, as does every fair-minded man, the knowledge of right and wrong as a test of responsibility, and says: "At last the new criminal code of Mr. Justice Stephen proposes to make the man's power of controlling his actions the test, and with that view every medical man will agree." This last observation does not apply to the United States, where a set of dilettanti physicians howl for the blood of the insane, and abuse medical science for not fitting into antiquated legal formulæ. The therapeutical part of the work is seemingly the most extended, but, as the author's diagnoses are not clearly made, it is not of as much value as it might otherwise be. This part, like the therapeutical part of eclectic works on Practice of Medicine, panders to the popular medical taste for the so-called practical, *i.e.*, the use of formulæ, of what is "good for" a disease. The work is badly printed, on poor paper, and is far inferior in this respect to the work of American publishers.

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, Vice-President of the Medical Jurisprudence Society of Philadelphia, Physician to St. Joseph's Hospital, Member of the College of Physicians of Philadelphia, Corresponding Member of the New York Medico-Legal Society. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1884. Price, $4.

If any reader is engaged in the public discharge of important forensic duty, he will, of course, obtain the large works of Taylor, Beck, Wharton and Stillé, Gay, Tidy, Tardieu, Casper and others; but even with these he will find this volume instructive and valuable. If, however, a physician desires only to prepare himself for any of the many forensic emergencies which may arise in his practice, he will find this work of Dr. Reese quite sufficient for his purpose.

It is concisely but comprehensively written The style is lucid and judicious, the diction good, the views taken are sound, and the advice given is always reliable. But little more can be said, and that little is not needed to guide the reader in the selection of a practical and compact work on medical jurisprudence.

The author's name has long been familiar in the didactic field of professional labor, and in connection with Taylor's Medical Jurisprudence, of which, for several editions, he was the efficient and valuable American editor. He has had abundant practical experience and didactic opportunity, and these are fully manifest in his book. It is hoped that the work will receive an abundant and a most justifiable support. It is well issued.

HANDBOOK OF FIRST AID TO THE INJURED. Prepared at the request of the Society for Instruction in First Aid to the Injured by BOWDITCH MORTON, M.D. Illustrated. New York: Published by the Society, No. 6 East Fourteenth street.

This small book is issued by a society whose aim is to "save life and limb if possible during that trying period when the physician is being sought for, perhaps in vain." Every one has experienced a wish to assuage pain, and "has experienced that other feeling of utter helplessness when he did not know what was the right thing to do." Dr. Morton, in the introductory chapter, gives a brief idea of the outline of the structure and most important functions of the human body. In the subsequent chapters all the rational and simple methods of treating shock, hæmorrhage, burns, strains, choking, croup, drowning, fainting, apoplexy, sunstroke, etc., are prescribed. In addition to all this information, "the treatment of the sick is clearly explained." The directions given by the author are "exactly of that kind which even the most ignorant can understand, and, aside from the aims of the excellent society who make use of this publication, it is supposable that all families would want to have just such a book in case of an accident in the household."

It is not necessary to say more. Any manual that is avowedly issued to try and teach the masses how to treat shock, hæmorrhage, croup, apoplexy, etc., must be regarded by every sensible man out of the profession, as well as by all in it, as a ridiculous sham and palpable absurdity. Such books find their way, sooner or later, to the waste-paper merchants, or to the servants in charge of domestic fires; and the sooner the better. It is true that Esmarch has entered this advertising field, but this fact cannot support such a silly attempt to induce professionally untrained and uneducated people to undertake professional work of the very gravest and most difficult character; it only shows that the greatest men are not free from folly of the most stupendous character. What would be thought of an author who issued a manual to try and teach amateurs how to command a man-of-war in action? And yet, how simple in comparison would this feat be when compared with that of a factory girl or railway "hand" undertaking to manage a case of surgical shock, or membranous croup! Still, with such an absurdity so palpable, there are physicians who support this silly movement, and there are even medical journals which sustain and commend such volumes. This JOURNAL recommends but one disposition for them all, and that is the waste-basket or the nearest fire; and the sooner the better for the Profession: and still the better for the poor and helpless Public.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M.D. Lond., F.R.C.P. Lond., Physician to Charing Cross Hospital, and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital Medical School, Senior Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Brompton. Fifth American from the sixth revised and enlarged English edition. With one hundred and fifty engravings. Philadelphia: Henry C. Lea's Son & Co.

When the early editions of this excellent work were published they were each commended by this JOURNAL. The work has since steadily increased in scope and value, and now it is one of the very best books that the physician of all work or of any work can have in his library.

CONVERSATIONS BETWEEN DRS. WARREN AND PUTNAM ON THE SUBJECT OF MEDICAL ETHICS. WITH AN ACCOUNT OF THE MEDICAL EMPIRICISMS OF EUROPE AND AMERICA. By FRANK H. HAMILTON, M.D. New York: Bermingham & Co., 28 Union Square. 1884.

The scope of this work is limited indeed. Dr. Warren is a very feeble man of straw brought forward to be transfixed and demolished by his opponent, Putnam. This JOURNAL, though, ought to support the book, as Putnam, the victor, is an old-code man.

It should be said, however, that he deserves but little praise for demolishing his mentally infantile adversary, though Warren's views are fully equal to any of those advanced by the new-code men.

In the next edition, it is to be hoped that the advocates of the new code will invent or originate something like reason or argument for poor Warren, and induce the author to allow Warren to occupy a less pitiful and disgraceful position. He should not die or be defeated so easily.

ADVERTISERS' REFERENCE BOOK. By E. DUNCAN SNIFFEN, 3 Park Row, N. Y.

This book contains carefully-revised lists, with circulation, politics, etc., of the best daily, weekly, monthly and quarterly publications (newspapers, magazines, medical and literary journals) of the United States and Canada. It is an honest manifest, and the result of abundant opportunity, long experience, great good judgment, and a special aptitude and ability for successful work in this arduous, complex and difficult field of labor. The author is certainly of great practical benefit to advertisers, and, in his relations with those who publish advertisements, he is always careful, accurate and liberal. Apart from the question of advertising, many will find this accurate exhibit of the titles, age, circulation, etc., of the chief publications of this country and Canada advantageous and instructive. Mr. Sniffen is personally and financially entirely responsible, and all business entrusted to him is transacted with vigor, care and fidelity.

ECZEMA AND ITS MANAGEMENT. A PRACTICAL TREATISE BASED ON THE STUDY OF 3,000 CASES OF THE DISEASE. By L. DUNCAN BULKLEY, A.M., M.D., Physician to the New York Skin and Cancer Hospital; Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out-patient Department, Etc. Second edition, 8vo., cloth, pp. 344. New York: G. P. Putnam's Sons, Publishers, West Twenty-Third street.

This excellent book was originally an essay read by the author before the American Medical Association in 1874. It has been enlarged and improved, and is now an excellent, valuable and most instructive work.

BOOKS AND PAMPHLETS RECEIVED.

MEDICAL JURISPRUDENCE. J. J. Reese. P. Blakiston, Son & Co.
PRACTICAL MEDICINE. A. L. Loomis. Wm. Wood & Co.
DISEASE OF CHILDREN. Eustace Smith. Wm. Wood & Co.
MANUAL OF OBSTETRICS. E. L. Partridge. Wm. Wood & Co.
PRACTICAL MANUAL OF OBSTETRICS. E. Verrier. Wm. Wood & Co.
ELEMENTS OF PATHOLOGY. Edward Rindfleisch. P. Blakiston, Son & Co.
A TREATISE ON PHYSIOLOGY AND HYGIENE. J. C. Hutchison. Clark & Maynard, N. Y.
DISEASES OF THE THROAT AND NOSE. Morrell Mackenzie. P. Blakiston, Son & Co.
SYPHILIS AND PSEUDO-SYPHILIS. Alfred Cooper. P. Blakiston, Son & Co.
HOOPER'S PHYSICIAN'S VADE MECUM. W. A. Guy and John Harley. Vol. I. Wm. Wood & Co.
MANUAL OF DISEASES OF THE THROAT AND NOSE. Morrell Mackenzie. Wm. Wood & Co.
PATHOLOGICAL ANATOMY. Ernest Ziegler. Wm. Wood & Co.
HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. Arthur Van Harlingen. P. Blakiston, Son & Co.
ADVERTISERS' REFERENCE BOOK. E. Duncan Sniffen, N. Y.

FORMATION OF POISONS. G. V. Black. P. Blakiston, Son & Co.

INDEX CATALOGUE OF THE SURGEON-GENERAL'S OFFICE, U. S. A. Vol. IV.

THE LOCKJAW OF INFANTS. J. F. Hartington. Bermingham & Co.

HEALTH HINTS FOR TRAVELERS. John C. Lundberg. D. G. Brinton.

TRANSACTIONS OF MEDICAL SOCIETIES OF MISSISSIPPI, TEXAS, ARKANSAS, GEORGIA, CONNECTICUT, WEST VA.

NOTE. —Monographs, addresses, pamphlets, catalogues and circulars will be noted in next issue.

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MISCELLANEOUS.

VIRCHOW UPON THE CHOLERA AND TUBERCLE BACILLUS.—At the time of the return to Berlin and public reception of the Cholera Commission, Professor Virchow made a speech, in which he uttered some timely words of warning. He said: "It appears to me that the Government is not entirely free from the opinion that with the discovery of the bacillus everything is accomplished which may be necessary to control the disease. In this connection I may speak a warning word. It is more than thirty years since we discovered the little organism which causes the small-pox, but this fact has not changed in the least the practical measures previously adopted for its prevention. The tubercle bacillus is a very important thing, but with the exception of a new point of view of the disease which is given we are no further advanced in our practical relations to it." He then goes on to say that the cholera has for some time been practically treated as though it were caused by a special organism. He also referred to the laxity of the English in the matter of quarantine.—*Medical Record.*

A CRITICISM FROM INDIA ON THE CHOLERA BACILLUS.—The *Indian Medical Gazette*, in the course of an elaborate review of Koch's work and discovery, says: "A review of the whole evidence brought forward by the German Cholera Commission shows that they have only succeeded in establishing the fact that a peculiar form of bacillus is normal to the intestines of cholera patients; but the exact part which this organism plays in the morbid process is left wholly undetermined. Only a very moderate degree of probability has been made out in favor of this bacillus being the cause of cholera; but the futility of trusting to probabilities and conjecture in an etiological inquiry into cholera is generally well recognized. The problem, therefore, of the causation of cholera still remaining unsolved, it awaits and ought to receive that careful attention which its great importance demands." It is not fair to depreciate the value of Koch's discovery; but, on the other hand, it will do no good to give to it any greater weight than the evidence strictly justifies.—*Medical Record.*

A SPECIFIC FOR HICCOUGH.—Dr. Henry Tucker recommends, in the *Southern Medical Record*, the use of the following very simple remedy in the treatment of hiccough, namely: Moisten granulated sugar with good vinegar. Of this give to an infant from a few grains to a teaspoonful. The effect, he says, is almost instantaneous, and the dose seldom needs to be repeated. He has used it for all ages—from infants of a few months old to those on the downhill side of life, and has never known it to fail. The remedy is certainly a very simple one, and although no theory is advanced to account for its wonderful action, it merits trial.

PAINLESS ESCHAROTICS.—From the *St. Louis Druggist* we learn that Esmarch's painless caustic powder, for the removal of warts, tumors, etc., is composed of:

℞. Arsenious acid, part 1; sulphate of morphia, part 1; calomel, parts 8; pulv. gum arabic, parts 48. This is to be sprinkled on the cuticle daily. The surface should be denuded either with the knife or a blister. Canquoin's paste, for the same purpose, is made, according to M. Charles, by the following formula: ℞. Chloride of zinc, fused, parts 10; alcohol, 60 deg., parts 2; wheat flour, parts 15. Rub the zinc chloride to a fine powder, add the alcohol, rub again and incorporate the flour, strongly pressing with the pestle. As soon as the paste is homogeneous, spread with a roller or bottle into sheets about one-eighth of an inch thick, and after a few hours put into a well-corked bottle. Latour's nitro-chloride of zinc paste, a most excellent escharotic, is made by dissolving 50 parts of chloride of zinc and 100 parts of nitrate of zinc in 80 parts of water. The solution is made by the aid of heat. When it cools, add to each 100 parts of the fluid, 75 parts of wheat flour, and incorporate as in Canquoin's paste.—*Medical and Surgical Reporter.*

Dr. E. L. Keyes gives the result of his experiments in a number of cases of gonorrhea with some of the methods of treatment which have recently been recommended, especially those by hot water and by corrosive sublimate. His temporary conclusions are as follows: 1. A mild corrosive-sublimate solution irritates the urethral mucous membrane more than it seems to irritate an open wound. 2. It appears that an abortive treatment of gonorrhea is yet to be discovered. 3. The hot-water treatment of gonorrhea is unreliable.—*Journal of Cutaneous and Venereal Diseases.*

Pathognomonic Sign of Fracture of the Neck of the Femur.—Prof. Bezzi, after showing in the *Spallanzani* the difficulties and uncertainties which often attend the diagnosis of this accident, observes that at the Milan Hospital a traditional practice exists of exploring, whenever fracture of the femur is suspected, the short space between the trochanter and the crest of the ilium. In place of the considerable resistance which there is produced in the sound limb, through the tension of the tensor faciæ latæ, there is found, when the injury has occurred, a deep depression, due evidently to the diminution of the tension of this muscle, owing to the approximation of its points of attachment.

Twin Birth with Membranes Intact.—Dr. A. M. Pratt reports the case of a patient to whom he was called in a hurry, the statement being that the child was already born. He found the patient on her knees on the carpet, the baby crying lustily. She said that she had had no pain, but not feeling well had risen and was walking to and fro in the room. Suddenly she had a furious pain—so severe that she could neither step nor stand. She dropped to the floor, and before the pain ceased the child was born. While Dr. Pratt was ligating the cord, she remarked that the afterbirth had come. On examination, however, it proved that what she supposed to be the afterbirth was really a second child, which was enclosed in intact membranes.—*Pacific Med. and Surg. Journal.*

Operation for Obstruction of Intestines.—The first deliberate and definite proposal to open the abdomen in search of an obstruction in the intestine was made by Paul Barbette in 1672. The first operation of the kind is recorded by Bonetus in his *Sepulchretum*, published in 1677. The first operation in England for the same purpose was done by Sir Benjamin Brodie. The case was published in the *Lancet* for 1827, p. 502.—*British Medical Journal.*

Remarkable Recovery from a Severe Abdominal Wound without Antisepsis.—Dr. J. C. McMillan sends us the history of a man, an engineer, who had received a cut in the abdomen during a fracas. The cut was four inches long, near the umbilicus, and extended into the peritoneal cavity. The intestines were protruded, and the small intestine cut half through in one place. The patient had lain in the road for four hours before Dr. McMillan saw him, and the protruded bowels were covered with dirt. He was taken to a house, anæsthetized, the intestines cleaned with lukewarm water, the small intestine sewn up with silk suture, and the abdominal wound closed. The patient was well, and discharged in two weeks.—*Medical Record.*

RE-ESTABLISHMENT OF NERVE CONTINUITY IN A HEALED WOUND.—That nerves readily unite after section is sufficiently frequently observed. It is well to bear in mind that the extremities of severed nerves imbedded in a cicatrix may be subjected to operation and the lost innervation thus re-established. Dr. Tillaud (Report *French Acad. Science Gaz.*, Feb. 1, 1884, No. 27) reports two old cases of section of the median nerve thus treated, with cure of the dependent paralysis.

TO REMOVE FOREIGN BODIES FROM THE EYE.—Before resorting to any metallic instrument for this purpose, Dr. C. D. Agnew (*American Practitioner*) would advise you to use an instrument made in the following manner: Take a splinter of soft wood, pine or cedar, and whittle it into the shape of a probe, making it about the length of an ordinary dressing probe. Then take a small, loose flock of cotton, and, laying it upon your forefinger, place the pointed end of the stick in the centre of it. Then turn the flock of cotton over the end of the stick, winding it round and round so as to make it adhere firmly. If you will look at the end of such a probe with a two-inch lens you will see that it is quite rough, the fibres of cotton making a file-like extremity, in the midst of which are little interstices. As the material is soft, it will do no harm to the cornea when brushed over its surface. When ready to remove the foreign body, have the patient rest his head against your chest, draw the upper lid up with the forefinger of your left hand, and press the lower lid down with the middle finger, and then delicately sweep the surface in which the foreign body is embedded with the end of the cotton probe. When the foreign body is lodged in the centre of the cornea, it is most important not to break up the external elastic lamina; for if you do, opacity may follow, and the slightest opacity in the centre of the cornea will cause a serious diminution in the sharpness of vision.

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MEDICAL NEWS.

CHANGE OF MEDICAL SUPERINTENDENTS OF COOK COUNTY INSANE ASYLUM, CHICAGO, ILL.—The Cook County directors of the Insane Asylum have secured for the asylum the able services of Dr. J. G. Kiernan as its medical superintendent. Dr. Kiernan is a man of recognized scientific qualifications and of large practical experience. He was assistant physician to the New York City Asylum for the insane, and practically superintendent of the same for four years. He is at this time connected with this JOURNAL, having charge of the department of Original Abstracts, and is assistant editor of the *Journal of Nervous and Mental Diseases*, and of the *American Journal of Neurology and Psychiatry*.

"RUSTIC RHYMES" is the name of a handsome volume of poems by W. T. Chandler, M.D., of Campbellville, Ky.

DR. VAN DER VEER, of Albany, N. Y., gave to Lawson Tait, F.R.C.S.E., September 11th, a brilliant reception. Dr. Thomas A. Emmet, of this city, gave, on September 26th, a similar entertainment in honor of Dr. Playfair, of London.

PERFECT specimens of the folded leaves of the willow, of the flower of the corn-poppy, etc., have been found by Dr. G. Schweinfurth in the sarcophagi of Egypt enclosed 3,000 years ago, and yet they exhibit no characteristic by which they could be distinguished from those growing at the present day in the same neighborhood.

MR. VANDERBILT GIVES $500,000 AWAY.—At a meeting of the Trustees of the College of Physicians and Surgeons, October 18th, the announcement was officially made that Mr. William H. Vanderbilt had given to that institution the sum of $500,000 as a building fund. A site, including 29 city lots at Sixty-eighth and Sixty-ninth streets and Tenth avenue, has been purchased, and it is understood that building operations will be begun at an early day.

MESSRS. JANSEN, MCCLURG & CO., Chicago, will issue, very soon, a new work on the "Principles and Practice of Medicine," by Dr. N. S. Davis. The work is not a compilation, but an embodiment of the observations, thoughts and experiences of the author during nearly fifty years of active medical practice.

THE NEW PROFESSOR AT JEFFERSON MEDICAL COLLEGE.—The appointment of Professor Mallet to the vacant chair of Chemistry in the faculty of the Jefferson Medical College is one which will add strength to the school. A graduate of Göttingen (Ph.D.), of the University of Louisiana (M.D.), and of William and Mary (LL.D.), a member of various scientific societies, and, until recently, Professor of Chemistry in the University of Virginia, Dr. Mallet brings culture, high reputation, and distinguished ability to his new position.

DR. T. JOHNSON has resigned the chair of Surgery in the Southern Medical College, Atlanta. The chair made vacant by Dr. Johnson's resignation has been well and ably filled by the appointment of Dr. J. McF. Gaston, formerly of Columbia, S. C., and lately of Brazil.

SIR WILLIAM JENNER, of London, commenced life as an apothecary in a small back street, and for a long time the battle of life fell severely on him. He worked with rare energy, and after obtaining the M.D. degree and being elected a fellow of the College of Physicians was appointed Physician to University College Hospital. He later became physician to the Queen and Prince of Wales.—*American Druggist.*

JUDICIAL decisions have been rendered in several different states, to the effect that in cases where a physician or surgeon has recovered the amount of his bill by legal process no suit for malpractice can be sustained, inasmuch as the result of the first proceeding forms a legal recognition of the value of his services.

THE University of Heidelberg will soon celebrate its five hundredth anniversary. The parliament has voted a large sum to defray the expenses of the occasion.

A MAN during a lifetime of fifty years, according to a paper recently read before the Academy of Science, Paris, sleeps away an average of 6,000 days, works away the same period, eats away 2,000 days, walks away 800 days, is ill during 500 days and amuses himself with the remainder of his half century on earth.

AT a recent meeting of the Philadelphia Co. Medical Society, Dr. Carl Seiler called attention to the value of tincture of benzoin in the treatment of chapped hands and frosted feet. He has used it in a number of cases with much success. It is applied by simply painting it on the skin. The stocking may be prevented from sticking to the feet by rubbing some oil over the benzoin.

DR. GRAFTON TYLER, one of the best known and most popular of the older physicians practising in the District of Columbia, died at his residence, in Washington, August 26.

A NEW Medical College in the District of Columbia has been organized. The new college is to be called the Medical Department of the "National University."

DIED.—September 2d, of cancer, Mrs. S. P. Culbertson, wife of the senior editor and proprietor of the *Cincinnati Lancet and Clinic.*

A DIAGNOSIS.—"Congestion of the right kidney" is the diagnosis made by his attending physician of an indisposition from which Rev. Henry Ward Beecher has been suffering.

SIR HENRY THOMPSON recently presented to the Museum of the Royal College of Surgeons his valuable collection of calculi, the result of 812 operations, both lithotomy and lithotrity.

DR. RIGGIN BUCKLER, a well-known and highly-esteemed physician, residing in Baltimore, died at his summer cottage, at Narragansett Pier, on August 31st, after a lingering and painful illness. Dr. Buckler was a son of Dr. John Buckler, one of the most influential and successful of the former practitioners of that city.

AT the meeting of the Society of Physicians of Vienna, Dr. Felix Schwartz showed a case of wandering liver in a man, a very great pathological rarity. There have been only two cases in men and thirteen in women reported.—*Medical Record.*

THE *Druggists' Circular and Chemical Gazette* has undergone a change of editors. The publishers have secured the services of Mr. Henry B. Parsons as editor, who brings with him many qualifications for the office. It is hoped that he may have an entire and deserved success.

NOT IN FAVOR OF WOMEN.—The University of Heidelberg has been offered the sum of 100,000 marks on condition that it would admit women to its courses. The offer was refused.

EDITORIALS.

The Collective Investigation of Disease.—As a great deal is now said and written upon this subject, and almost always in favor of the general system of collection recommended, it has been deemed best to place before the readers of this journal the most recent views of one of its chief apostles, Sir William Gull. And while the author mentioned is by no means to be commended for the lucidity of his reasoning, for the strength of his mental powers, or for the diction in which his thoughts are usually presented, still he has attained great prominence in connection with this subject, and, in presenting the matter, it is but fair and right to present the explanation of one of its chief exponents.

It is to be hoped that each reader will carefully examine this address or lecture of Sir William Gull, for he will thus obtain, in brief, the principal ideas of those who commend this method of investigating disease. In addition to this, one can easiest, by this means, obtain a fair conception of the arguments of those who believe and assert that so much must be the logical result of investigating disease by the methods proposed. Still more: this subject is, at present, to use a feminine mode of expression, "all the rage," the latest fashion, the chief professional pet, and it is well to learn what it all amounts to, when presented by one of its chief and most prominent advocates.

It is true that Sir William Gull cannot or does not write forcibly on any subject, and one familiar with his writings would not expect much from him on this occasion; still, even with the mind thus prepared to find but little in any address of his, no one could, in advance, believe that in regard to a subject so great a favorite with him, and so familiar to him, so much could be said and so little presented. It is a barren waste of platitudes, hypotheses, familiar and admitted truths, weak premises and poverty-stricken conclusions. And this is due not entirely to the author, but largely to the subject selected. There can be no doubt of the fact, that it is an *ignis fatuus*, at which and into which very many of the Profession are, moth-like, precipitating themselves.

What can be thus gained that is not gained, and has not for years been gained, through the familiar method of the professional Press? Little, if anything, occurs of professional interest or value in the experience of any physician, or of any organized Body of physicians, which is not published by medical journals, and so made the property of the whole Profession; for if it be of real value, one journal publishes it, all copy it, and soon it is read by all men. Thus is it analyzed, weighed, compared with results already recorded, and made the pride as well as the property of the Profession. Line upon line, precept upon precept, facts, statistics, demonstrations, all that represents truth is thus faithfully recorded and almost universally disseminated. And the contributors are not the chosen few to whom the "cards" or "circulars," etc., of the National or International Investigating Body may be sent, but they are the physicians of the entire civilized world. The products of their labors in every field are harvested into one great granary, to be the mental food and professional sustenance of all.

In this there is unity of action, the one from the many; concentration of widely-diffused power, with prompt, continuous and wide distribution of the results. What can any professional Body for the general investigation of disease, with the slow declaring of their results, accomplish, when compared with the great Body of the entire Profession, working throughout the civilized world, and giving their grand results, for universal dissemination, to that priceless, resistless, omnipresent and never-resting engine, the modern professional Press?

One would suppose that the Profession had just begun "the Collective Investigation of Disease," were he to read and believe the papers of those who are at present so noisily presenting this subject; while the truth is that, such authorities to the contrary, the Profession has been doing such work from its very infancy, even for centuries; doing it on a scale far more extensive than any now proposed, and giving its results far more promptly and far more generally than is possible by any of the methods recently and so constantly suggested. Every reader of a journal is reaping the harvests of this great and ancient Body in the old and modern field of medicine; every practitioner is working for it, and every writer or author is a contributor to it.

The weakest arguments, however, in favor of this new hobby, this modern and professional "mare's nest," are to be found in the papers of its great advocates; and if any one wishes to irrefutably condemn the whole movement, he will find his best weapon for so doing in the armory of those who are its chiefest and noisiest defenders.

Gaston's Operation, as it will hereafter be called, is well described in the article contributed by its originator in this number of the Journal.

Most well-informed physicians have been aware that, from a variety of causes, the duodenal or inferior extremity of the ductus communis choledochus becomes closed, producing a series of pathological phenomena too well known to require description. Dr. J. Marion Sims and others have endeavored by the operation of cholecystotomy, or the establishing of a fistulous discharge of the bile externally, to correct the evils and remove the danger of a closure of the duodenal end of the common duct; but, as is well known, the operation has been attended with fatal results. But even had it for the time so far succeeded as to secure the establishment of the fistulous discharge desired, all who are familiar with the physiological problems presented must realize that such success would be only apparent or temporary, and not real or absolute; as the outward discharge of the bile would practically so destroy nutrition, or so impair it, as to render death, as a rule, inevitable. Indeed, the fear of such a result must have deterred Hughlings Jackson, Petit, Thudicum, Langenback, Tait and others from performing the operation of cholecystotomy, for they have often discussed its feasibility, and have had abundant opportunity for performing it. Sims, it is well known, really did perform the operation, and with his usual enthusiasm hoped for wonderful results. He did not remember, or apparantly did not remember, that had he succeeded in saving the life of his familiar patient, death must have resulted finally from the diversion of the bile from the duodenum, with the consequent subversion of the digestive processes.

It has occurred to Gaston, and only to Gaston, so far as is known, to establish for the bile a fistulous opening not through the abdominal walls (cholecystotomy) with an external discharge, but through the walls of the duct and the neighboring intestine, the bile being thus delivered in the intestine and not externally. His method of accomplishing this ingenious, great, novel and original operation is carefully described in his paper, as published in this number of the JOURNAL.

Gaston has succeeded in his effort, and has created and contributed a new, bold, and life-saving operation. He is entitled to honor and distinction, and his countrymen and his brethren everywhere will fervently and cheerfully accord to him all that he so deserves and has so fairly and fully won.

NOTE.—In 34 cholecystotomies 9 died soon afterwards. How many died from malnutrition subsequently no one knows.—ED.

WHAT DOES IT MEAN?—It is to be hoped that the editor of the *Journal of the American Medical Association* will, after correcting the orthographic errors, tell the medical Public what his correspondent Sigma means by the following language, which seems as if written by a chronic confusional lunatic: "We hold that there is no such thing as reflex action. That all nerve force is from center to periphery, and that which we term reflex action is but the cognizance of nerve-waste, and that the involuntary motion of avoidance is the result of ganglionic cell supply of same. Constant irritation of the peripheral end of a nerve calls for continued supply, thereby an abnormal determination to its center and finally inflammation, erroneously termed *transferred* irritation. The gray through its oxygen, being the true dynamic matter, is but fuel for future brain-waste, and any impediment to its transit through its Schwannian structure destroys its use, as is seen in sclerosis, insanity, perverted sensations, neuralgia, as well as the beneficial results of nerve-stretching and counter-irritation. That it is the seat of any intellectual faculty, is destroyed by the frequent loss or absence of a part or parts which was not even suspected during life, but if viewed as a protein neucleated cell, which by the constant calls of the economy become fissiparously multiplied, elongated and enveloped by the white substance of Schwann, is carried to its termination to supply nervous sensation or force, would explain its invariable and super-abundant connection with the centers of all nerves of rapid or constant use or action, as thalamus, corpus geniculatum and striatum and pineal body. And to those following the ingenious researches of *Gaul* in the *pleurality* of brain functions, a more likely reward in determining the depth to which the pia mater dips into the substance in the centers of Ferrier, than by any convolution or tubercle on the outer table of the skull. Ferrier, in the demonstration of his centers, conclusively proves such *pleurality*, and if these be viewed as the *infundibular origin* of a special nerve, and the heart (not the pineal body as according to Descartes) as the seat of the soul in man, and knowing its intimate connection through the pneumogastric nerve with the cerebrum, cerebellum, chord and sympathetic system and find a very plausible center for the *secure* and *ready* manifestation of every psychical impulse. More anon."

It is obvious this would-be neurologist is ignorant of the latest contributions of Exner, Meynert, Spitzka, Starr, Plechsig and Goltz to the science of cerebral and spinal-cord anatomy.

THE OCEAN BEACH DISGRACE.—The sudden death of Mrs. Amelia Watts, of Ocean Beach, N. J., created considerable excitement in this vicinity from the announcement that her death was caused by foul play. It appears that Mr. Aaron Newman called on Dr. William L. Kinmonth, saying that Mrs. Watts was very sick; he responded to the call, prescribed for her, pronounced her out of danger, and left to attend to another call, and at half-past one she was a corpse. The services of the undertaker were called into requisition soon after death, and in compliance with the law he called on the attending physician for the death certificate. Dr. Kinmonth informed him that the woman had taken a spoonful of rat poison. This information startled Mr. Sexton, and he at once determined that it was a case for the coroner. Coroner Theodore H. Woolley immediately responded to Mr. Sexton's call, and upon investigation the above facts were elicited. The coroner at once proceeded to empanel a jury, who viewed the body, and, upon the request of the deceased's half-brother, a post-mortem examination was ordered. The inquest was then adjourned, and Drs. Wilbur and Johnson, of Asbury Park, N. J., removed the stomach.

On the arrival of Coroner Woolley, the jury was at once reconvened, and Dr. William L. Kinmonth was placed upon the stand. His testimony was as follows: "I am a practising physician of Ocean Beach; have practised here for two years. *Think I graduated in* 1882; I graduated from the United States Medical College of New York City. I practised in Manasquan two years before I graduated. I was called by Mr. Aaron Newman, who said that Mrs. Watts wanted me. I asked them if they could not get another doctor; he said that she wanted me; I told him that I would come down right away. I did so; found her numb, with hands cold; seemed as if she was paralyzed. She ordered Mrs. Williams to take her little girl out of the room. After she had gone she said that she was ashamed to tell me what she had done. I asked her what she had done. She said that she had taken a spoonful of Rough on Rats. Not knowing what Rough on Rats was composed of, I did not know how to prescribe for her, but as I had some magnesia in my pocket I gave her magnesia and milk. My call lasted about fifteen minutes; she said that she felt better, and appeared to be easier. I then left, saying, *that if she got worse* to send for me and I would come down. This ended the direct testimony, and, upon cross-examination, he stated that Mrs. Williams was in the room when Mrs. Watts said she had taken the poison.

Mrs. Sarah Williams being called corroborated the doctor's testimony, with the exception that she was in the room when Mrs. Watts admitted that she had taken poison. This she strenuously denied. She said that they had sent for Dr. Kinmonth two different times between his first call and Mrs. Watts' death, but he was not at home; she also said that she did not know that Mrs. Watts had taken poison until Mr. Sexton had told her.

Drs. Wilbur and Johnson, who made the examination of the stomach, testified as follows: "Body opened and all the viscera found in a normal condition except the stomach and left ovary; the latter contained a cyst. But the stomach was the organ of interest, and therefore it was removed and opened and found to be intensely congested and inflamed, which was of so severe a nature as to be the cause of rapid death. Dr. Johnson said that the stomach in some locations was so much softened that it was nearly broken through. The cause of this inflammation was due to some irritant poison."

It was the opinion of both Drs. Wilbur and Johnson *that the woman could not have been saved.* All the evidence that followed showed conclusively that the woman had taken poison, but no motive could be shown for her rash act.

It is difficult to understand how any one who had "practised for two years" could leave a woman who had informed him that she had taken poison; how he could give any medicine which he did not know was an antidote; how, with such gross and inexcusable ignorance, and with such stupidity as to give medicine (as an antidote) by guess-work, he did not go to his office and learn what was the true antidote, return and administer it. It is also difficult to believe that any one, when knowing that a poisoned patient had entrusted her life to him, could deliberately go away, and say if the patient whom he had ignorantly and foolishly treated "got worse," she was to send for him. One can only understand such brutality, cowardice and stupidity, when he learns that such a man could "*think* that he graduated in 1882," that he could not remember for two years the period of his graduation, and was taught in such a fraudulent concern as the United States Medical College, an institution which has been conferring degress without right, either legal or moral, to do so. Did one who could not remember when he graduated ever graduate? And is there another man living who cannot tell when he graduated?

That the coroner did not hold this "doctor" responsible for this woman's death is only another instance of the unspeakable ignorance of the majority of such officers, and the necessity for having educated physicians to discharge such a duty. There can be no question of the fact that this physician, if he be a physician, should have been held by the coroner as responsible for the death of the woman. The coroner should have so charged the jury.

How Drs. Wilbur and Johnson could have found the stomach almost disintegrated, "so much softened that it was nearly broken through," and "all of the other viscera in a normal condition" is, and always will be a puzzle to pathologists and toxicologists. If they so testified, such testimony must be characterised as unequaled professional stupidity. To say, too, that the patient's life could not have been saved, when, from the manifest ignorance and almost criminal malpractice of her physician, nothing had been correctly done to counteract the histological effects of the poison is marvelous indeed. It shows either gross ignorance, or a degree of leniency which was entirely inexcusable on so solemn and critical an occasion.

It is rare, indeed, that such ignorance on the part of all concerned has ever been publicly manifested.

REMOVING A DOUBLE CATARACT WITH THE AID OF HYDRO-CHLORATE OF COCOAINE.—A student at the University of Heidelberg, in Germany, while experimenting recently with cocoa, made a tincture of hydro-chlorate of cocoaine, which to his amazement and surprise he accidentally discovered that when applied to the surface of the eye would make it insensible to feeling. Dr. Noyes, of this city, who was in Heidelberg at the time, heard of the wonderful discovery, and sent a brief account of it, and its operation, to his friends in the medical profession here. The hydro-chlorate of cocoaine is the active principle of cocoa, and is only made by one firm in Germany. It cannot be obtained in the drug stores in this country. An anæsthetic that would render a particular part of the human body without sensation, and avoid the necessity of using chloroform or ether, which affect the whole body, has long been sought by the medical Profession, and this new discovery will be thoroughly tested and experimented with, in the hope that it may be found to have an effect upon other portions of the body than the eye.

This anæsthetic has been used in a few cases within the past two weeks by one or two eminent oculists in this city. The material is costly at present, and, as it has not been made in this country, it will be some time before it will be used in ordinary practice. It was used October 20th for the first time at the Mount Sinai Hospital. A woman fifty years of age, totally blind, was admitted to the hospital. About two years ago, she noticed a slight cloudiness at times in the left eye, which gradually increased until, at the end of a year, the sight was wholly destroyed. The right eye became affected in a similar manner, with the same result. Her eyes being subjected to a bright light, an internal examination was made, which revealed the presence of a hard, mature cataract in the capsule. When the light was before her eyes, she could distinguish it from darkness, but could not see any surrounding objects.

The woman was taken to the operating room and laid upon her back, upon the operating table, in order to retain the liquid in her eye. The hospital staff and a number of physicians were present. The attending physician had endeavored to procure a small quantity of the new anæsthetic, but could not get it in the city, and used in the operation some that he had previously obtained. It is a colorless fluid, without taste or odor. The eyelids being held wide open, four drops of the liquid were cautiously dropped upon the surface of the eyes. It produced a slight anæsthetic effect upon the external coating. After an interval of five minutes four drops more were applied, which caused the insensible condition to extend deeper, and after waiting another five minutes four drops more were used. After the last application the sensation of the eyes was tested : they were found to be entirely anæsthetized. A pair of fixation forceps were then applied and adjusted without any sensation being felt by the patient. The operation for cataract was then performed on both eyes and lasted about twenty minutes. The new anæsthetic had done its work beautifully. After the operation, the flaps of the cornea were placed in proper position, and the patient was asked to count the number of fingers held before her eyes, which she did correctly, though with some hesitation, in consequence of the power of accommodation being lost by the removal of the lens from both eyes.

The eyes were then bathed in a solution of boracic acid; cotton compresses were applied to them and bandaged tightly. The woman was then led to her ward.

THE USE OF ALCOHOL.—Now that Mr. St. John, the temperance candidate for the Presidency, is so prominently before the Public, and so many are babbling foolishly on a subject which they do not understand, a few facts thereon will be opportune.

The abuse of alcohol produces so much moral evil, so much material ruin, and such widespread unhappiness, one rather wonders that the forbidding of it is not more general; for, as a drunken man does immoral acts, it is natural that a practice which, if carried to excess, makes men drunk, should be held unjustifiable and unlawful, and that total abstinence should be raised, by the exaggeration characteristic of recoil, in to a moral obligation. Nevertheless, the effect of excess in wine is no more a reason against the use of wine in moderation, than is the effect of gluttony (which is very demoralizing, though the world has forgotten the facts, and hardly understands the Biblical denunciations of the vice) a reason against taking a daily dinner. The use of wine is not wickedness, and the theories raised on that basis are fallacies contradicted by a glance at the facts of the world. So far from the use of alcohol destroying the races that use it, the wine-bibbing races have been the conquering races, and civilization owes so much not to the Hindu who abstains, but to the wine-drinking Greek and Roman, and the beer-swilling Teutonic races. The Hebrew who drinks, and always has drunk, has done five times as much for the world as the Arab, who is the most rigid of abstainers. The single Hindu sect which has not renounced alcohol, but demands regular rations of rum—the Sikh—is the one which would conquer and probably reinvigorate all the others. Nor is the dogma as to the moral effect of total abstinence one whit more irrefutable. The Turks who committed the atrocities of Bautouk were hereditary total abstainers; the authors of the massacres of Cawnpore had never seen liquor, and the Bedouin who will kill one for a few buttons would kill him also, if he could, for drinking ale. That alcohol in excess, by weakening the will, diminishes self-restraint, and therefore increases the disposition to crime, is true; but to suppose that total abstainers are therefore free from crime is to ascribe to diet a moral influence it unquestionably does not possess. Most thieves are teetotalers, and all card and billiard sharpers impose on themselves the strictest moderation. These criminals are always sober.

The Greeks and Romans, the French and Germans, the English, Scotch and Americans have been free drinkers; and yet they are the chief exponents and representatives of civilization, while the abstaining nations, the Turks, Arabs and Hindus, are sluggish in thought and action: the slow followers and not the gallant leaders in the field of civilization.

The use of alcohol in moderation is not a vice, nor is it even an injury; it is the abuse of it that destroys. But the "teetotalers" are equally abusive of the use and abuse of it.

It is well to have fact, and to know the truth on this interesting and important subject. It is possible to legislate against the promotion of drunkenness, but it is folly to legislate against the use of alcohol. Its use should be and may be legally restricted; its practical abolishment would be folly and fanaticism.

Hot Weather.—Many a man has mopped his brow during the summer months of 1884, declaring it was the hottest weather the world ever knew, which, of course, would not be true, for the extreme heat in the record of the past has not been approached during the late summer.

In 627, the heat was so great in France and Germany, says the *London Standard*, that all springs dried up; water became so scarce that many people died of thirst.

In 879, work in the field had to be given up; agricultural laborers persisting in their work were struck down in a few minutes, so powerful was the sun. In 993, the sun's rays were so fierce that vegetation burned up as under the action of fire. In 1000, rivers ran dry under the protracted heat, the fish were left dry in heaps and putrefied in a few hours. Men and animals venturing in the sun in the summer of 1022 fell down dying.

In 1132, not only did the rivers dry up, but the ground cracked and became baked to the hardness of stone. The Rhine in Alsace nearly dried up. Italy was visited with terrific heat in 1139; vegetation and plants were burned up. During the battle of Bela, in 1200, there were more victims made by the sun than by weapons; men fell down sunstruck in regular rows. The sun of 1277 was also severe; there was an absolute dearth of forage.

In 1303 and 1304, the Rhine, Loire and Seine ran dry. In 1615, the heat throughout Europe became excessive. Scotland suffered particularly in 1625; men and beasts died in scores. Meat could be cooked by merely exposing it to the sun. Not a soul dared to venture out between noon and 4 P.M. In 1718, many shops had to be closed; the theatres were never opened for several months. Not a drop of water fell during six months.

In 1753 the thermometer rose to one hundred and eighteen degrees. In 1779, the heat at Bologna was so great that a large number of people died. In July, 1793, the heat became intolerable. Vegetables were burned up and fruit dried upon the trees. The furniture and woodwork in dwelling-houses cracked and split up; meat became bad in an hour.

In Paris in 1846, the thermometer marked one hundred and twenty-five degrees in the sun. The summers of 1859, 1860, 1869, 1870, 1874, etc., although excessively hot, were not attended by any disaster.

Adaptation to Climate.—The celebrated physician Boerhaave believed that no being breathing with lungs could live in an atmosphere having as high a temperature as that of the blood. According to this dictum, one ought to die at a temperature of 100°; but Banks enjoyed good health on the Senegal when the thermometer rose in his cabin to above 120° and 130°. Men live on the southwest coasts of Africa, and in other hot regions, where the heat of the sand under their feet reaches 140° or 150°. Men in deep mining-shafts, and under diving-bells, are able to support an atmospheric pressure of 30,000 kilograms, as well as a pressure of only 8,000 kilograms on the highest mountains. Cassini thought that no animal could live at a greater height than 4,700 metres, or 15,000 feet; but there are several inhabited places situated at a still greater height, as, for instance, Gartok, in the Himalayas. Alexander von Humboldt ascended Chimborazo to a height of nearly 6,000 meters, or 19,286 feet, without suffering any harm. The pressure of the atmosphere is so light at such elevations that, as Humboldt was assured, wild animals, when driven up to them, bleed at the mouth and nose. Only the dog is able to follow man as far and as high as he can go; but this animal, too, loses his acute smell in Congo and Syria, and the power of barking in Surinam and at great heights. And the finer breeds of dogs cannot long endure the conditions of a height of more than 3,760 metres, or 12,500 feet, while there are towns in the Andes at as great a height as 13,500 or 14,000 feet.

MENTHOL.—This substance has recently been brought into notice as a remedy for headache and neuralgia. It is a white, semi-crystalline body, with a strong, burning odor of peppermint, and is usually made into small cones mounted on a wooden handle, and sold under the name of "Pain pencil."

If it is rubbed over the locality of a headache or other pain; a burning sensation is first felt, followed by a feeling of refreshing coolness, and temporary relief of the pain.

The liquid oil of Japanese peppermint has long been used in Japan and China for this purpose; and travelers have frequently brought home small vials of this oil, inscribed with oriental hieroglyphics, and warranted to be a sure destroyer of pain.

Menthol is simply the solid constituent of this oil. Chemically considered, it is a camphor, and has the formula $C_{10}H_{20}O$, differing only from ordinary camphor ($C_{10}H_{16}O$) by the addition of four atoms of hydrogen. In the liquid oil of peppermint it exists in solution with a liquid hydrocarbon of the turpentine series $C_{10}H_{16}$, but can be readily crystalized out. Its medicinal effects are probably due to the counter-irritation it sets up; but the strong, agreeable odor of peppermint may also have some effect on the nerves. Although the relief it gives is generally only temporary, yet it is certainly harmless, and may prove a valuable addition to the list of popular remedies.

TEMPERATURES BELOW THE EARTH'S SURFACE.—According to recent observations, there are decided exceptions to the general law that the temperature increases with the depth. At the new Almaden quicksilver mine at California, at a depth of about 600 feet the temperature is very high—about 115°; but in the deepest part of the same mine, 1,800 feet below the surface and 500 feet below sea-level, the temperature is very pleasant, probably less than 80°. At the Eureka mines in California the air 1,200 feet below the surface appears nearly as cool as 100 feet below. The normal temperature of the earth, at a depth of 50 or 60 feet, is probably near the mean annual temperature of the air at the particular place. At the Comstock mines, some years since, the miners could remain but a few moments at a time, on account of the heat. Some ice-water was given them as an experiment. It produced no ill effects, but the men worked to much better advantage; and since that time ice-water is furnished in all these mines, and drunk with apparently no bad results. The mines on the Comstock vein, Nevada, are exceptionally hot. At depths of from 1,500 to 2,000 feet the thermometer placed in a fresh-drilled hole will show 130°. Very large bodies of water have run for years at 155°, and smaller bodies at 170°. The temperature of the air is kept down to 110° by forcing in fresh air cooled over ice. Captain Wheeler, United States Engineers, estimated the heat extracted annually from the Comstock, by means of the water pumped out and cold air forced in, as equal to that generated by the combustion of 55,560 tons of anthracite coal, or 97,700 cords of wood.

UNPRECEDENTED ENDURANCE.—PORT JARVIS, Oct. 26.—An instance of most remarkable nerve and endurance is reported from the Susquehanna Division of the New York, Lake Erie & Western Railway. While a freight train on that division was approaching Elmira a brakeman named Daniel Thomas was missed. Two men and a locomotive were sent back to look for him, as he had evidently fallen from the train. A mile this side of Seeley's Creek Bridge, they met Thomas walking towards Elmira, on the east-bound track. His clothing was nearly all torn from his body, and he was covered with blood. His right arm had been cut off at the shoulder by the car wheels, and Thomas was carrying the severed member in his left hand, which was clasped about the fingers of the severed hand. His collar-bone was broken in two places, four ribs were fractured, his head was badly cut, and he was terribly bruised. He had been thrown from a car by a sudden lurch of the train. He said that as soon as he could recover himself after the train had passed over his arm he regained his feet, hunted up his arm, and started up the track hoping to meet with help. He had walked nearly a mile when he was met by the locomotive. Notwithstanding his terrible injuries Thomas never lost consciousness. He was taken to Dr. Updegraff's office in Elmira, where he was given all the aid possible. Notwithstanding his wonderful nerve, it is feared that his wounds will result fatally.

TESTING KNOWLEDGE OF INSANITY.—Twelve candidates were recently driven up to the doors of the insane asylum at Ward's Island. They were the eleven candidates for the positions of first and third physicians in the Hudson River State Asylum for the Insane at Poughkeepsie, N. Y., and were under the charge of Clarence B. Angle, of the Civil Service Commission. After having answered the searching questions given on Dr. MacDonald's printed examination papers, the candidates were taken separately through the wards of the asylum. Dr. MacDonald had selected various peculiar cases for which the competitors had to prescribe. They were also asked to state, from the appearance of the patient and the tone of any replies he might give them, the phase of insanity *under which he was suffering, and the cause of the disease.* "This is the first examination of the kind we have ever had," said Dr. MacDonald; "it is eminently a practical examination, and I know of no similarly-conducted competition in the country." The doctors were asked to fill in the certificates of commitment for the patients whose cases were investigated. The result will be made known.

Can Dr. MacDonald or any one else living respond satisfactorily to such a test? This action borders very closely upon dramatic display and professional folly.

The Providence for Drunkards.—Drunkards enjoy a remarkable immunity from the consequences of injuries. One sometimes sees a drunken man pitched violently from a horse, and when the by-standers rush to the spot, expecting to find him dead, they are astonished to discover that he has been little injured. In his "Scrambles Among the High Alps," Leslie Stephen tells the story of a guide who while drunk fell over a precipice so deep that a fall over it seemed almost certain death, and yet he sustained little injury. Stephen accordingly gives his readers the advice either not to fall over a precipice, or to get thoroughly drunk before doing so. A man has thrown himself while drunk over the Dean bridge, in Edinburg, a height of about 200 feet, on to the rocky bed of the stream below. A sober man would probably have been instantly killed, but this individual, though he broke both of his thigh bones, recovered. · · · The reason of this immunity probably is that the nerve centres, which regulate the heart and vessels, are so much paralyzed in the drunken man as not to be affected by the shock of the fall, which in a sober man would have acted on them so violently as to stop the heart, arrest the circulation and cause instant death.

The Oyster Tumor.—A New Variety.—Dr. Theobold, of Baltimore, reports the removal by a physician, from the nose of a lady, of a suspicious-looking mass which had apparently sloughed off from its former attachments; the supposed neoplasm being regarded as probably of a malignant character. It was examined with the microscope, and at one of the meetings of a Baltimore society, its histological characteristics, together with the clinical facts, were duly presented. An animated discussion followed, and more than one hypothesis was advanced to account for the unusual features of the case. During the heat of the debate, an inquisitive individual inspected the supposed tumor with more care than others had displayed, and announced that it was a harmless specimen of the "bi-valve" order, familiarly known as the *oyster*. It was half digested, and had become lodged in the nose during a previous attack of vomiting. This is a forcible illustration of discussions, "long, labored and loud," too often held over imaginary "facts."

Humbert.—While the Secretary of State of this country is thanking, in public orders, Consul Mason for not running away, in a most cowardly manner, from his official post of duty in Marseilles, Humbert, King of Italy, is visiting in person the deadly cholera hospitals, prisons and factories of Naples, cheering the well, comforting the sick, and lamenting the dead. He has given, so far, over $80,000 of his private fortune to the poor and needy, and pledges the people not to leave Naples until the epidemic is at an end.

A most conspicuous and noble example for the many thousands of cowards who, in this country, flee away at the first approach of any "pestilence that walketh in darkness and destroyeth at noonday." So far medical men have been true to their duty, and when danger is greatest, there are they in the midst of it.

"ENCYCLOPEDIA OF MEDICAL WIT, HUMOR AND CURIOSITIES OF MEDICINE."—The undersigned proposes to publish during the coming year a large volume under the above or a similar title. In this undertaking he respectfully solicits the kindly aid of the Profession. Witticisms, and ancedotes of a humorous or curious nature are solicited. There are numberless unpublished experiences that would prove a source of amusement and instruction, and all physicians, druggists, dentists and others supplying original contributions will receive due credit in the work. Information regarding suitable literature—home and foreign, ancient and modern—will be gladly received and highly appreciated. The author is especially anxious to avail himself of every source, and would highly appreciate all information concerning publications likely to be useful for reference. All letters, contributions, clippings, books and other matter should be addressed to Julius Wise, M.D., 806 Olive street, St. Louis, Mo.

THE RICH DOCTOR.—Taddeo, of the Florentine University, Villani says, was the most reputed medical man of his day. He was deemed a second Hippocrates, and was summoned by the rich to all parts of Italy. The Pope fell ill and sent for him; when asked his fee Taddeo claimed 100 ducats a day, at which the invalid Pope remonstrated. Taddeo was firm, told stories of what large sums other princes had given him, and hinted at stinginess on the part of his Holiness. The Pope recovered from his sickness, and, "to purge from himself all suspicion of avarice," he sent Taddeo no less than 10,000 ducats. The doctor was a man of pious intent, and spent this splendid fortune on the erection of a church. He adhered to the fee bill, and never bid for practice by disgracefully underbidding his medical brethren. He had his reward.

WHY NEGROES ARE BLACK!—Surgeon-Major N. Alcock has contributed to *Nature* an interesting communication on the reason why tropical man is black, in which he suggests that, as in the lowest animals pigment cells placed behind a transparent nerve termination exalt its vibration to the highest pitch, the reverse takes place when, as in the negro, the pigment cells are placed in front of the nerve terminations, and that the black pigment in the skin serves to lessen the intensity of the nerve vibrations that would be caused in a naked human body by exposure to a tropical sun; that, in fact, the pigment plays the same part as a piece of smoked glass held between the sun and the eye.—*Medical Press.* This may be a result of such location of pigment, but it is folly to claim it as the cause.

THE CODE OF ETHICS.—The N. Y. Academy of Medicine has lost a legacy of $5,000 by its action, last autumn, in rescinding the Flint resolutions, requiring the Committee on Admissions to recommend for membership only such candidates as supported the National Code of Ethics, which the Constitution distinctly declares to be the Code of the Academy. The late corresponding secretary, Dr. John G. Adams, left the Academy $5,000 in his will; but, after the action referred to, added a codicil, revoking the legacy and devoting the amount to various charities.

Color-Blindness.—An amusing story is told of the great English chemist Dalton, who was red-blind and also a Quaker. When about to be presented at court, he learned that he must wear a scarlet coat as a part of his court-dress. This he refused to do from conscientious scruples. But his friends were determined that he should be presented, and, knowing his infirmity, dressed him in a coat of the regulation shade, gravely informing him that it was of a dark hue; and, as he was unable to tell the difference, he wore the objectionable color without being aware that he was violating his religious principles.

About Poisoned Snakes.—Sir Joseph Fayrer, who has been investigating snake-poisoning, says that to him one of the greatest of mysteries is that a poisonous snake cannot poison one of its species, scarcely its own congeners, and only slightly any venomous snake; but it kills innocent snakes quickly. A vigorous cobra can kill several dogs, or from a dozen to twenty fowls, before its bite becomes impotent; and then the immunity is of brief duration, for the virus is rapidly re-secreted.

Early Development.—The instances, indeed, of precocious genius in men are numerous. Beranger, a printer's compositor, taught himself, and began to publish at 16. Calderon was celebrated among his surroundings at 14. Campbell's "Pleasures of Hope" was published when he was 20. Keats, a surgeon's apprentice, first appeared in print at 21, and died at 25. Shakespeare had written almost all of his historical plays before he was 34.

"Pasteurized" beer is now being sold in Canadian cities. The process of Pasteurization requires the heating of the liquid to a point sufficient to destroy the vitality of yeast cells and other germs. This is accomplished by a temperature of over 131° F., and the heat should be applied for a considerable time. If the process is imperfectly performed, the cells will develop as soon as circumstances are favorable.

Dr. Edward Warren writes that he is too sick to prepare his monthly Paris letter for this issue; he will, however, be ready for the November number.

The last stage of a cholera patient is the hearse.

This number has been delayed nearly two weeks by the miscarriage of one-half of the copy prepared, between the editor's office and the publishing house. It was finally found, and the material is herewith presented.

Special.—The Paris letter has not arrived. When from any cause this Journal is delayed in its issue, subscribers will please remember that it is then made up *to the date of its issue;* it is then not an old number, *but fresh and containing the very latest news.*

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ORIGINAL ARTICLES.

ARTICLE I.—SO-CALLED PARASITIC DISEASES. By L. B. ANDERSON, M.D., Norfolk, Va.

The avidity with which the medical mind has seized upon the recent disclosures of the microscope, in the supposed relation of "micro-organisms to disease," must be our apology for a brief notice of that subject.

We are told by a distinguished author "that a certain number of diseases have for their cause the introduction into the body of what are called parasites. These parasitic forms of life are of two, or, as some would opine, of three kinds. Certain of them are of a distinct animal character, others are distinctly vegetable, while others, it is assumed, lie between the vegetable and animal kingdoms."

Human parasites are divided into three classes: 1, entozoa; 2, ectozoa; 3, entophyta and epiphyta. The first two classes are of animal character, and embrace a larger number of parasites, which have been known and recognized, and concerning which there is but little controversy or difference of opinion.

The last, however, are supposed to be of vegetable character, the nature of which have been comparatively, but recently discovered and described, but which are supposed to be the cause of the most formidable diseases which afflict and scourge our race.

These vegetable parasites are said to be of the nature of algæ or fungi, one of the simplest forms of life, and are found in the blood, secretions and tissues of the human system in many diseases, such as typhoid, thrush, relapsing fever, syphilis, gonorrhœa, ague, leprosy, malignant pustule, pyæmia, septicæmia, erysipelas, phthisis-pulmonalis, scrofula and other diseases.

The name bacteria has been applied to colorless and unicellular parasites, which have been arranged, says Dr. Richardson, as sphero-bacteria, globe-like, including micrococcus and sarcina; micro-bacteria, rod-like; desmo-bacteria, larger rod-like; filo-bacteria, thread-like, including vibria and bacillus; spiro-bacteria, spiral-shaped, including the spirillum. Among the most important of the simple, colorless organisms, in the view of those who attach primary meaning to them as causes of disease, may be specially mentioned the dermo and filo-bacteria yielding the bacilli, which are found in anthrax, tubercle and malarial fevers.

While the advocates of the germ theory attribute a large number of diseases to the direct agency of vegetable parasites, they consider anthrax and tubercle the most clearly demonstrated effects thereof. And while it would be interesting and profitable to examine many of the disclosures of modern microscopical pathologists in this field, we have only time and space to give a brief investigation to the theory of bacillus tuberculosis. In doing so we shall use the materials and language bearing on this subject found in recent publications by Belfield, Richardson and the *American Journal of Medical Sciences*, so far as they may afford an authentic record of the labors and writings of Koch and others upon the subject, and we hereby give full credit to these authors for the free use of their materials without further acknowledgment.

What are bacilli? They are rod-like bacteria, multiplying by fission as well as by spores. The spores exhibit a tenacity of life not possessed by the mature bacilli. Their activity often remains unimpaired by prolonged boiling or several months' immersion in absolute alcohol, while time seems powerless to weaken them. A bacillus is a living organism, possessed of a definite size and shape, has a certain chemical composition, and is, as above stated, capable of growth and reproduction. Tubercular bacilli possess no power of locomotion, and hence their transfer from one spot to another is passive, so far as they are concerned. Koch attributes their transposition in the tissues to the white blood corpuscles, which take them up and bear them in their migrations till they are destroyed by the pernicious influence of the parasite. In some rare instances a growth of bacilli was found perforating a small artery or vein, thus explaining metastatic deposits in distant parts by their transposition in the blood current. They are considered the lowest form of bioplasm in nature, and are often less than one ten-thousandth of an inch in diameter, while the spores from which they spring are far more minute.

How do they originate? Never, says Koch, in healthy animal tissues, but their spores or germs are found in the tissues and interstices of many animals, and almost all plants, while no part of the bodies of men or the higher animals are entirely destitute of particles which, under favorable circumstances, may not develop into bacteria. Upon the skin and the surface of mucous membranes, in the mouth and follicles of glands they, says Beale, abound. Morbid changes in the process of digestion are soon followed by the multiplication of bacteria in every part of the alimentary canal. The germs exist even in healthy blood, but they remain dormant until a change adverse to healthy action occurs, when they grow and multiply with great rapidity. It would be difficult to say where bacteria germs do not exist; for in air, water, soil, adhering to tiny particles of every kind; on the highest mountain and in the lowest dell; riding on dust and motes and insects, and floating in the sunbeam in every part of the world, from pole to pole, may bacteria be found. They prey upon morbid structures, and spring into life in all dead animal tissues. They may be found in the secretions of cholera and fever patients during life, and rapidly multiply in their morbid evacuations.

What are their characteristics? There are a number of varieties so much alike, says Koch, in size and appearance, that with the greatest care and attention we are often impotent to secure the isolation of a given species. In a previously-heated and well-stoppered flask, thoroughly boiled urine will remain perfectly free from organisms. When, however, it is made alkaline, bacteria are developed in immense numbers. In order to cultivate them, a drop of pus, blood or tissue containing the spores is placed in an appropriate nutrient medium, and in a few hours or days the organisms will be diffused, by virtue of their rapid multiplication, through the mass. From this another drop may be treated in the same way, *ad infinitum.*

If two varieties of bacilli are found in the same tissue or nutrient medium, one of which multiplies more rapidly than the other, that will in a short time stifle this. Koch, Pasteur and Ehrlich affirm that they have never detected bacteria in healthy animal tissue, for when injected into the blood of a healthy animal they will soon be eliminated. For a life-time man may eat, drink and breathe bacteria without detriment, but so soon as disease lights up, the affected tissue swarms with them. By virtue of their ubiquity and frequently-recurring contact with the system, they may be frequently introduced into it through the skin and mucous membranes, especially of the lungs.

The impossibility of thorough investigation of human tissues during life, and also for hours after death, restricts materially the field of clinical observation, for only a few hours after death are needed to people a body with bacteria. Examinations of gunshot-wounds, before and after death, show that the wounded tissues were crowded with bacteria. When septic poison is introduced in large quantities into the blood, death soon ensues; but if the quantity be small, no serious results follow. If, however, bacteria in small numbers be introduced, sepsis will speedily follow by their rapid multiplication; hence, Koch attributes sepsis to these organizations. Innocuous-culture fluids, after inoculation with infected blood, acquire the same properties, provided such blood contains bacteria. Since putrefaction must be regarded as impossible without the presence of bacteria, it is evident that sepsis is due in every case to their action. Hence, septic infection from a wound means the absorption of bacteria; septic infection means the presence of bacteria, present or passed. While the presence of bacteria in the wound is unnecessary, septicæmia being produced by putrid liquids deprived of bacteria, yet the liquids are putrid because they embody the products of bacterial life. (See Belfield's "Lectures," pp. 44 and 45).

BACILLI TUBERCULOSIS.

From a large number of experiments (affirm the advocates of the germ theory), performed by widely-separated microscopists, it has been abundantly proven that tuberculous matter from the human subject will produce tuberculosis in the lower animals when introduced into their tissues. Rabbits fed with tuberculous matter will have tubercles in their bowels. Tuberculosis can, therefore, according to the unanimous testimony of observers, be induced by inoculation with tuberculous matter. As pyæmic infection never occurs without bacteria, so the infectious tubercle of tuberculosis never occurs without a bacterium. Tuberculous matter, when introduced into the human system, will produce tuberculosis, and nothing else will, says Koch; and while the system may swarm with bacteria, nothing will generate tuberculosis but the bacillus tuberculosis. Cohnheim triumphantly affirms there is scarcely a pathologist to-day who would deny that tuberculosis is a communicable disease.

The number of bacilli in tubercular tissues may vary enormously, says Koch. Where the tubercular degeneration is stationary or receding there are so few as to make their detection difficult, while where the disease progresses rapidly they crowd the field of vision. Wherever, he continues, the incipient stage of tubercular process can be studied, then the bacillary invasion of the healthy tissues invariably precedes the tubercular infiltration. The tubercular nature of the nodules in the lungs is proven by their structure, the presence of bacilli, and their infectious properties. The sputum, he says, of tuberculous patients contains at most times, if not always, the characteristic bacilli. Hence, it is infectious in air, drying for many days, and, when containing spores, for months. Infection is difficult from inhaling the atmosphere of fresh, moist sputum, but when dried it floats easily on the air, and can be readily communicated. Spontaneous tuberculosis begins for the most part in the lungs, while that from inoculation from the point of ingress. And finally, says Koch, the consumptive who swallows his own sputum exposes himself to secondary tuberculosis of the intestines. Hence, also, primary tuberculosis of the intestinal canal, while very rare, may be produced by eating tubercular material containing spores, such as beef, bacon, and even milk from an infected mammary gland.

Koch's statements may be thus summarized: The active agent in induction and propagation of tuberculoses is a bacillus; tuberculosis does not occur without the presence of this organism; all those anatomical changes, and only those, should be called tuberculosis whose point of departure from a healthy condition is the presence and vital activity of this bacillus; hence, general and local miliary tuberculosis, pleurisy, pneumonia and bronchitis certainly, and probably several other diseases, are etiologically identical.

We believe we have given a clear, concise and correct summary of the teachings of modern microscopists, especially of Koch, on bacteria, and especially of bacillus tuberculosis, the sum of which is—that bacilli generate tubercle; the degeneration of tubercle, which is due to bacilli, causes consumption, and consumption is infectious because of the presence of bacilli in the sputum and exhalations. These affirmations are declared by Dr. Belfield to be *facts*, not "conjectures," "inferences" or "deductions," but absolute "demonstrations."

If the declarations in relation to the etiology of tuberculosis be true, as above given, then the whole theory and practice of medicine, as well as the long-accredited facts in pathology, must be discarded, and a new system of pathology and therapeutics be adopted. Before this great revolution is accomplished, the medical mind must be fully convinced and satisfied that these declarations are facts. We have no means of deciding this question, except by an analysis of the principles, declarations and supposed disclosures upon which these assumed facts repose, and a comparison of these with well-authenticated and universally-conceded facts in physiology, pathology and therapeutics. We raise no question as to the origin, nature or characteristics of so-called tubercular bacilli, but if many of the assertions in regard to them be true, whether made by Koch or others, we respectfully submit *that it has not been demonstrated* that the bacillus tuberculosis, or any other bacillus, is, has been, or ever can be, the cause of tubercular consumption.

We are told by the authors and advocates of this theory, that bacillary spores are, *per se*, innocuous; that they exist in great numbers in the healthy human tissues and vessels, and only produce bacilli in diseased or putrid matter. Koch, himself, admits that he has never found bacilli in healthy animal tissue. If this be so, by what process can the generation of tubercle be attributed to them? We are told that when the tissues are abraded or diseased from measles or other deleterious agencies bacilli find a lodgment in them, multiply with great rapidity, and by their chemical or vital influence over the physiological processes produce tubercle. If the spores can only fructify in degenerated or putrid tissues, and bacilli can only live in such, then we cannot perceive how they can produce tubercle, which surely can neither live nor grow in a tissue in such condition. Tubercle is a perverted nutrient process, without putrefaction, fermentation or pustulation, and when these processes have not begun, bacilli cannot live or multiply, and where they have begun, no new tissue, healthy or vitiated, can be developed; hence, where they have not begun, bacilli cannot live, and where they have, tubercle cannot form.

Let us understand this point. Tubercle is an abnormal growth; in itself it is innocuous, and may exist for a long time without serious local or constitutional disturbance until, by its mechanical irritation or other adventitious agency, inflammation is lighted up in the surrounding healthy tissue, nutrition is impeded and degeneration begins. These processes are in strict conformity to well-established physiological and pathological laws. At what stage, then, can bacilli perform a part in this process? Not before diseased action is lighted up, because, says Koch, they are never found in healthy tissue. Not after degeneration and putrescence begin, because tubercle can never develop in a tissue under such a process, for such a process only follows their degeneration. Tubercle is a growth, morbid or abnormal, if you please, but, nevertheless, a growth; bacilli can only spring and live in degeneration, they cannot, therefore, produce the former.

Apparently to escape this dilemma, Koch says, "bacilli are always found in the tissue preceding the formation of tubercle." This cannot be healthy tissue, for in such, he says, he has never found them. It cannot be suppurating tissue, for suppuration, he says, is always produced by bacilli; and it cannot be degenerating or putrescent tissue, for in such tubercle can never be formed. From this standpoint, "the demonstration" of Koch falls below a respectable "inference." Koch tells us that in seventy observations of spontaneous tuberculosis bacilli were invariably found, but, he significantly adds, "it is almost needless to say that in extensive examinations of healthy and morbid, but non-tubercular tissues, these bacilli were never met with." If bacilli are never found "in healthy or morbid tissues, non-tuberculous," it is evident that they are not the cause of tuberculosis; for, if they were the cause, they must have existed before the effect. But since they are never found "in healthy or morbid tissues" where no tubercle exists, but are almost always, *though not uniformly*, found in association with tuberculosis, it is evident they spring from, but do not generate, that morbid condition. And yet he tells us, "*the bacillary invasion of the healthy tissues invariably precedes the tubercular infiltration.*" If Koch is assured they invariably invade the healthy tissues before tubercle is developed, or that they invade healthy tissues at all, he must have witnessed such invasion. If he has witnessed the invasion of healthy tissues by bacilli, how can he reconcile such a fact with his positive assertion, "that in extensive examinations of healthy and morbid, but non-tubercular tissues, *these bacilli were never met with?*"

We are informed that Koch had a menagerie of rabbits, pigs, rats and mice, which he caused to inhale an atmosphere infected with spray laden with bacilli for half an hour a day for three consecutive days, the result of which was, they were all infected with tubercles in the lungs and other organs. The evidence of the existence of tubercle was found in "the structure of the nodules, the presence of bacilli in them, and their infectious nature." How long these poor prisoners had been confined in his "box in the garden" we are not informed, but if their tissues were healthy, bacilli were not the course of the tubercules, because they never invade healthy tissues. If they were morbid they must have been tuberculous, because they never invade any morbid tissue non-tuberculous. If they were tuberculous, they were so prior to the inhalation of the infected spray, and, consequently, were so rendered by other agents than bacilli. So far, we respectfully submit that Koch has not demonstrated a *propter hoc* in regard to bacillus tuberculosis.

Space will not permit us to proceed with our analysis, and we must content ourselves with a brief notice of a few of the assumed "demonstrations" of Koch. He says, "the bacilli possess no mobility; they are swallowed up by the white corpuscles of the blood, and borne about until the pernicious influence of the parasite causes their destruction." Can any declaration be more specific, circumstantial or dogmatic than this? And well it may be if, as we are assured, it rests not on "inference" or "deduction," but on "ocular demonstration." Let us examine this for a moment. Koch tells us, in searching for bacilli in a supposed infected tissue, to take one drop of the medium and place it under the field of the microscope. This seems to be a quantity sufficient to fill the field under a high power. To see what Koch affirms has been ocularly demonstrated, we must have under the scope of vision a cytoblast one three-thousandth of an inch in diameter. We will have to watch that corpuscle "swallow up" a one ten-thousandth of an inch in diameter, and if it be a spore, germ or egg, if you please, of the size, at most, of one twenty-thousandth of an inch. This corpuscle begins its march in the round of circulation; we watch it as it dips into the depths of the liver, lungs, heart and brain, and finally, as "the pernicious influence of the parasite it has swallowed" has done its work of "destruction," the imprisoned parasite is liberated, having increased through "fission and spores" to, it may be, thousands or millions, to be themselves "swallowed up" by the remaining hungry "white blood corpuscles" in the circulation. To be able to make an "ocular demonstration" of what he affirms in relation to the migration of bacilli, Koch must have seen what we have described. If he has not, then he has made no "ocular demonstration;" that he has not is evident, because these processes, were they to occur at all, would be consummated far away from the utmost stretch of the most powerful and concentrated microscopic vision. Such a declaration must, therefore, be the merest "conjecture" imaginable.

The more we examine the work of these earnest, enthusiastic and evidently sincere laborers in microscopic fields, the more we are impressed with the error and delusion under which they labor. They ignore chemistry, physiology and therapeutics, and attempt to establish a pathology resting on microscopical disclosures among the infinitesimals of protoplasm, and along the dangerous shores of nonentity. But we must stop.

ARTICLE II.—REPORT OF TWO CASES OF UNUSUAL MALARIAL POISONING.

Read before the Medical Society of the District of Columbia by W. H. Taylor, M.D., Second Vice-President of the Society, October 8, 1884.

September 20, 1884, 3 o'clock P.M.—Called to see Mrs. B., a large, fleshy women aged fifty. Condition as follows: Pulse too weak to be counted, barely perceptible at wrist; heart beating feebly, first sound very indistinct, and at intervals cannot be heard; vomiting every few minutes; violent pains in abdomen, and constant desire to go to stool; passes from bowels bloody water with shreds like finely-scraped raw beef; breath short and blowing, or panting; tongue congested, with slight bluish tinge; complexion rather dusky; expression of countenance distressed, but not bad; pupils normal; great thirst; skin cold and dry; extremely restless, like a person suffering from excessive loss of blood.

3.30 P.M.—Has vomited three times, and had three operations from bowels within the last twenty minutes; operations more bloody in appearance. The three operations have filled an ordinary chamber vessel about half full. Pulse faintly perceptible. I gave ʒi. of Squibb's mixture, tinct. opium, etc., which she retained about one minute, then vomited, with more than a pint of clear water. Ordered a suppository of tannin gr. iii, morphia sulph. gr. $\frac{1}{4}$, ol. theobrom. q. s.

7 P.M.—Pulse only perceptible at intervals; heart's action very weak; tongue pale; skin cold and dry; temperature in axilla 96.4; has had a chill, she says, and is now complaining of being very cold; pupils normal; intellect very clear; is not so restless as at 3.30; has had one suppository at 4 o'clock P.M.; no action from bowels since then or pain in abdomen, but has vomited twice, and complains of nausea. Ordered quinine gr. x, piperine gr. ii, in capsule every four hours, and a suppository to be passed into rectum if bowels are moved again to-night. She is drinking ice-water with milk very freely; she says she feels as though she must die, but that she wishes to live if she can, and anxiously asks what I think of her condition.

September 21, 10.30 A.M.—Had small operation at 10 o'clock this morning;

not so bloody; vomited at same time; no pain or tenderness in abdomen; skin feels warm to the hand, but is dry; tongue natural; complains much of nausea; pulse 80; temperature 96°; respiration 60; has taken thirty-five grains of quinine and six of piperine since 7 o'clock yesterday evening; takes chicken broth freely, and milk with ice-water. Ordered five grains of quinine, one grain of piperine, and half a grain of opium every four hours.

5 P.M.—Pulse 70; temperature 95.8°; respiration 30; no operation from bowels; vomiting continues; face is flushed, probably from taking a mint julep, which was taken of her own accord. One capsule of quinine, opium and piperine was taken at 12 M., making in all forty grains of quinine since 7 o'clock the evening before. Beef tea, milk and ice-water was taken freely through the day. She passed urine freely at 10 in the morning, which was the first time since she was taken sick twenty-four hours before. I discontinued all medicine, and directed a wineglass of beef tea, or a wineglass of milk, to be given every two hours, and nothing else unless hæmorrhage returned, then a suppository was to be given, and crushed ice to eat.

September 22, 10 A.M.—Patient much improved; pulse about 65; respiration a little hurried upon exertion; no operation from bowels; no vomiting since evening before; temperature not taken. Left, with directions to take a quinine capsule at night and dose of castor oil in the morning.

September 25.—Going about house quite well; temperature pulse and respiration normal; has had no action from bowels since Sunday morning, 21st; has not taken the oil as ordered, but has taken quinine regularly morning and evening; appetite and digestion fair, only complains of nervousness. In describing the manner in which this attack commenced, Mrs. B. said she was taken suddenly at ten o'clock in the morning with a peculiar "numb and tingling sensation, such as is experienced when a foot goes to sleep, as it is called, only the sensation extended all over her body, and she felt a bad feeling around the heart." This bad feeling was soon followed by vomiting and purging, which lasted until I saw her at 3 P.M. The first matter passed from the bowels was very dark and thin, and was without feculent odor. The succeeding operations were such as I have described, watery and bloody. She said the quantity of matter passed from the bowels during the morning was enormous. Such matters are always exaggerated, but the discharges must have been very considerable to bring about the condition in which I found her at 3 o'clock that evening.

This form of pernicious fever, or congestive fever, as it is called by some writers, is not, I think, often met with in this district, but is prevalent in the malarious localities of the South and Southwest. Da Costa, in "Medical Diagnosis," calls it a combination of the "gastro-enteric" and "thoracic variety of the malady," and says: "It is perhaps the most rapidly destructive of all the forms of the disastrous affection." I have seen here and in Maryland a few cases of congestive fever, perhaps not more than four or five cases in all, but they did not present the symptoms which were so prominent in the case I have just described. There was neither vomiting nor diarrhœa, and though the patients were restless they complained of nothing, and when questioned said they were feeling well or were not much sick; the extremities were cold, the finger-nails blue, but the head and body would be hot or warm, and the cheeks red or face flushed. The expression of countenance was listless or stupid, and they did not answer readily when questioned. The malarial poison in these cases seemed to act more directly on the brain and nervous centres, producing a degree of sedation or anæsthesia sufficient to render the sufferer rather indifferent to outside impressions or irritations, either mental or physical.

In the second case which I am going to report in this connection, I am inclined to attribute the disastrous termination to the same malarious poison or influence that came so near ending the days of my first patient.

Mrs. ——, a large, fleshy, full-blooded woman, aged 43 years, in her ninth month of pregnancy with her twelfth child, was taken sick while out riding, on the evening of September 29th. She said she was taken with a peculiar sensation that she could hardly describe; that she felt as though something had "given away;" and a sick, numb feeling came upon her. She returned home, and was taken with vomiting and purging. I saw her at ten o'clock, P.M.; she was then vomiting, and complaining of violent pain at the pit of the stomach, shooting through the right of the chest to the right shoulder, and to the spine between the shoulders; pulse 80; temperature 96 in the axilla. I made a careful examination per vaginam, but could not detect any indication of approaching labor. She said she was sure she was not going to be confined at that time; that the pain she felt was not like labor pains, and that it would not be time for her to be confined for a week or ten days. Though she was dreadfully nauseated and vomited, or tried to vomit incessantly, her pulse was full and hard, so much so as to suggest to my mind the propriety of bleeding. She was very restless, frequently getting out and in bed, and her respiration was accelerated. The matter vomited was small in quantity, dark-colored, and looked as though mixed with blood. I ordered a pill of two grains of quinine, two grains of camphor, and half a grain of opium, to be given every two or three hours until pain was relieved, and put a mustard plaster on the stomach and one on the back between the shoulders, and gave crushed ice and ice-water to relieve thirst. In about one hour and a half the pain in the stomach and vomiting ceased and the pain in the back was not so distressing, and she seemed inclined to sleep, and I left her.

At half-past five the next morning, September 30th, she got up, had a watery, bloody operation from the bowels, and fell over on the floor in a convulsion. I saw her at six o'clock A.M. and she was in a second convulsion. Her husband told me she took the second pill of quinine, camphor and opium at twelve o'clock at night, and became quiet and slept or rested until half-past five, when she was taken with convulsions, as stated. At 6.30 A.M. I gave ten grains of chloral hydrate and fifteen grains of bromide of potash. At seven there was another convulsion, which lasted thirty seconds, convulsing the body violently; the head was turned over the right shoulder, the left arm drawn up and the hand clenched; the right arm was extended, the eyes turned to the right; the mouth was open. The convulsion passed off in the usual manner, consciousness returned in about three minutes, she looked around, recognized those about her, spoke a few words rationally, then fell into a restless, troubled sleep.

7.30 A.M.—Fourth convulsion.

8 A.M.—Fifth convulsion. Dr. Wm. G. Palmer called in consultation.

9 A.M.—Sixth convulsion.

9.30 A.M.—Gave chloral hydrate and bromide of potash; great difficulty in swallowing.

9.40 A.M.—Seventh convulsion.

10 A.M.—Dr. Palmer in consultation. At this time there was some indication of labor having set in. The pulse ranged from 130 to 170 per minute, full and hard; temperature 99.6°.

10.10 A.M.—Eighth convulsion. 10.15 I tied up right arm and took about twenty ounces of blood.

11 A.M.—Ninth convulsion.

11.45 A.M.—Dr. W. G. Palmer in consultation. The os was sufficiently dilated to apply forceps and deliver a dead female child at term. There was a convulsion during the extraction of the child, which was the tenth and last convulsion. The uterus contracted up well after delivery of the placenta; hæmorrhage very slight. The pulse remained strong and full up to 12.10 P.M., twenty-five minutes after delivery, then suddenly began to flag, the countenance became pale, and the respiration counted fifty per minute, and was loud and snoring; the eyes became fixed and the pupils contracted. I gave whiskey and ether hypodermically, but with only transient effect. Death took place at 2 o'clock P.M., seventeen hours from commencement of sickness, and eight and a half hours after the first convulsion. The uterus remained firmly contracted up to the time of death. After death the body had a lemon-yellow color all over.

I am induced to class these two cases as cases of malarial poisoning, from the fact of my having quite a number of undoubted malarial cases at this time, in which the symptoms, so prominent here, have in all been presented in varying degrees of intensity; and, further, because both have suffered with malarial fever some few months back.

In the discussion on Dr. Taylor's paper, John B. Hamilton, M.D., Surgeon-General of the Marine Hospital Service, said: "Mr. President: I would not venture to take up the time of the society at this late hour were it not that the subject of these hybrid forms of malaria is under consideration, and I feel that perhaps I can bring out some points that do not seem to be generally understood so far as the medical geography of the disease is concerned. Until 27 years of age I resided in the Mississippi valley, near St. Louis, and the first five years of my professional life were spent in practice in that locality. There are few forms in which the paludal poison may show itself that I have not seen. I have seen the pernicious form very many times; I have seen them die in a few hours after the attack, and it has been my fortune to see those chronic forms of malarial disease in which the march toward death is not less sure on account of its chronicity. The pernicious or "congestive" chill, I need not remind you, is almost never met with in this region. It has two principal varieties, one of which is characterized by intense pain in the region of the stomach, and the other, in which there is a comatose state from tension of the cerebral vessels; in both there is great coldness of the surface and of the extremities, paleness of the ears, lips and finger-nails. The type of malarial poisoning most prevalent in the Mississippi valley is that of ordinary ague of the tertian variety. Masked hybrid forms are somewhat rare. The regular shaking ague I have not met with to any extent on the Atlantic coast, nor in the extreme Northwest. I was stationed, while an assistant-surgeon in the U. S. Army, in Northeastern Washington Territory for about thirteen months. The post is about 2,800 feet above the sea level, and near the 49th parallel of latitude. At the time there was no physician attached to the Indian Agency there, and I, as a medical officer of the Army, was called upon to treat the Indians; there were about 3,000 of them. Notwithstanding their outdoor life, there was no sign of malaria about them, nor was there any among the troops. I do not think a half ounce of quinine was used during my entire service there. On entering this service (Marine Hospital), I was for a short time stationed in New York, and attended sailors at the Custom House Dispensary and at the "Retreat" Hospital on Staten Island. At the latter place shaking ague was not uncommon, but still the disease lacked the bold, undisguised type of the Mississippi. In June, 1877, I was ordered to the Chelsea Hospital, and shortly after arrival there I discovered that the patients showed unmistakable symptoms of malarial poisoning, and quinine in large quantity was required. There the type was more obscure, and true ague was rare. Since coming here and observing the disease as it prevails among the river men on the Potomac and Chesapeake, I am sure that among them also the ague is scarcely ever seen, nor have I seen those cases of enlarged spleen, with the marked tenderness of the left hypochondrium, that are so common near St. Louis. Speaking with special reference to the particular cases of Dr. Taylor, it is the Western practice to administer quinine in the course of treatment of nearly every case of dysentery, not because of any belief that malaria caused the dysentery, but that the malarial influence modified the disease so that its care was always retarded and sometimes prevented where the modifying cause was unrecognized. In regard to those cases of chronic malarial poisoning in the pregnant female, where the patient was greatly run down previous to delivery, delivery was apt to be followed by a colliquative diarrhœa, and death was the general rule, although occasionally recovery took place."

As bearing on the cause of malaria, Dr. Hamilton mentioned the prevailing belief in Central Illinois that a cornfield situated in the direction of the prevailing wind was nearly certain to produce ague in families in houses so situated. He thought the upturning of the soil had a great deal to do with the production of ague in Illinois. He stated, as a fact, that the type of malarial poisoning from the Delaware Bay south along the coast, and the shores of the Chesapeake, was distinctly remittent rather than intermittent.

ARTICLE III.—IS NERVE AND ELECTRIC FORCE ONE AND THE SAME? By J. J. CALDWELL, M.D. Baltimore, Md.

In the torpedo the body is somewhat oval and rounded. Our native species, found mostly in winter, especially on the low sandy shores of Cape Cod, is *torpedo occidentalis.* Its batteries and nerves are substantially as in the European species. The electrical organizations are constructed on the principle of the Voltaic pile, consisting of two series or layers of hexagonal cells, the space between the numerous fine transverse plates in the cells filled with the jelly-like, trembling mass, each cell represented, so to speak, a Leyden jar. There are about 470 cells in each battery, each provided with nerves sent off from the fifth and eighth pairs of nerves. The dorsal side of the apparatus is positively electrical, the ventral side negatively so. The electrical current passes from the dorsal to the ventral side. When the electrical ray is disturbed by the touch of any object, the impression is conveyed by the sensory nerves to the brain, exciting there an act of the will which is conveyed along the electric nerves to the batteries, producing a shock. The benumbing force is lost by frequent exercise, being regained by rest; it is also increased by energetic circulation and respiration. As in muscular exertion, the electrical power is increased by the action of strychnine.

In more recent experiments on the torpedo, examining the discharge of the fish with the telephone, slight excitations provoked a short, croaking sound. Each of the small discharges was composed of a dozen plexuses and pulsations, and lasting about 1-15 of a second. The sound got from a prolonged discharge, however, continued three or four seconds, and consisted of a sort of groan, with a tonality of about *mi* (1-15 vibrations), agreeing pretty closely with the result of "graphic experiments."

Marey has also studied the resemblance of the electrical apparatus of the electrical ray, or torpedo, and a muscle. Both are subject to will, provided with nerves of centrifugal action, have a very similar chemical composition, and resemble each other in some points of structure. A muscle in contraction and in tetanus executes a number of successive small movements or shocks, and a like complexity has been proved by Marey in the discharge of the torpedo (Packard's "Zoology").

Malapterurus electricus (*lacepede*), of the Nile, is electrical, the electric cells forming a layer directly beneath the skin, and enveloping the whole body, except the head and fins. The cells are minute lozenge-shaped, about one and a half millimetres in diameter. They are supplied by a nerve from the spinal cord. The shock is comparatively feeble, but suffices for defence, the fish being protected by its electrifying coat, as the hedge-hog by its spines. One of the lowest teleosts is the electrical eel (*gymnotus electricus*), of South America, which is two metres in length, and is characterized by its greatly-developed electrical batteries. These are four in number, situated two on each side of the body, and together form nearly the whole lower half of the trunk. The plates of the cells are vertical instead of horizontal, as in the torpedo, while the entire batteries or cells are horizontal instead of vertical, as in the electrical ray. The nerves sent to the batteries of the eel are supplied by the ventral branches of about 200 pairs of spinal nerves. Thus we at last discover that man is but a differentiated crystal, the accompaniment arrived at being a modification of, or highly differentiated, Voltaic pile. In the torpedo there are 470 cells in each battery. This is one of the lowest orders of vertebrates, and, therefore, the battery construction is simple, the discharges resembling more those from a charged Leyden jar. The machine remains at rest, to be re-charged before another manifestation of power. As we ascend, the organism becomes more complex, and in the higher fishes and reptilia and lower mammals the electrical apparatus resembles more dynamic electricity, while in the chimpanzee gorrilla we have faradic electricity, and lastly, in man, the phenomena require a combination of the different manifestations of this force. Hence, we have discharge as from Leyden jar when we knock a man heels over head. In ordinary motion, dynamical electricity; whilst making love, magnetic force when opposite poles attack and conjugation results. Whilst in reasoning we employ or bring into relation or co-ordinate all of the different arrangements, resulting in magnetico, statico, dynamico, force ratiocination.

As I have contended before this and other learned Bodies for years past, it is apparent from the close analogy of electricity to nerve force that this agent embraces a wide range of operative conditions. Through the nervous cords, which act as conductors, every part of the animal organism can be reached. In this way secretion and elimination of morbid products may be promoted, and the organ or apparatus restored to healthy action.

ARTICLE IV.—COW SURGERY. By J. M. H., Goodman, Miss.

A valuable milk-cow received an injury, in crossing a railroad track, by an express train, midway between the knee and foot, making a severe lacerated wound, tearing away a large artery. I was unable to control the animal so as to apply a ligature, so made a compress and applied a roller bandage. Over this a thick coating of common pine-tar was applied, considerably below and above the wound, so that all air was successfully excluded, and over this another roller of cloth was applied. An examination of the wound was made in six days, and, to the astonishment of all who had witnessed the first dressing, the wound was almost entirely healed, and that without any suppuration. This wound was of such a serious character that it was proposed to kill the animal, but she was a very valuable cow for milk, and hence the effort, which resulted so favorably.

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SUPRAPUBIC LITHOTOMY IN A WOMAN.—Lawson Tait reports a case in which a calculus occurred in the bladder of a woman who had been the subject of a plastic operation for a large vesico-vaginal fistula in which the cervix uteri had been turned into the bladder permanently, menstruation occurring into its cavity. Two years later she had symptoms of stone in the bladder; the calculus was then removed by crushing. Subsequently another stone developed, which was inaccessible through the urethra. Not wishing to undo the work already done, which had required seven operations to complete, Mr. Tait performed suprapubic lithotomy and removed the stone. Although the peritonæum was opened, the patient made a good recovery. The peritoneal wound was carefully closed, and a drainage-tube passed through the urethra and the wound. The stone was a soft phosphatic concretion, and was adherent to the sac in which it had formed.—*Medical Press and Circular.*

RÉSUMÉ OF ORIGINAL ARTICLES
IN OTHER JOURNALS.

Leprosy in New Brunswick.—In order to gain a more accurate knowledge of leprosy as it exists in the maritime provinces of Canada, Dr. J. E. Graham (*Canada Medical and Surgical Journal*) spent some days at Tracadie and the immediate neighborhood. There are now in the Lazaretto twenty-four patients whose names and histories were recorded. At the end of 1882 there were twenty-six patients—eleven males and fifteen females. There was one death during the year, and four patients were admitted. There have been no admissions since the commencement of this year. Two deaths have occurred, leaving the present number. On looking over the hospital records, it was found that the average length of time of residence in the hospital of those who died was about five and a half years. The average length of residence of those who are now in the hospitals is four years and ten months. This includes one who has been twenty-four years and another fourteen years in the Lazaretto. The history of Margaret Sonier, née Robicheau, is cited as a remarkable one. She contracted leprosy forty years ago, being now seventy years old. She was admitted to the Lazaretto on Sheldrake Island in 1844, when it was first established. During five or six years' residence there she lost all the fingers of both hands, leaving only the first phalanges of the thumbs. She was then sent out cured. She married into a leprous family, and had three children, one of whom has now been twenty-four years in the Lazaretto. The other two never contracted the disease. In the writer's opinion, the disease has not really returned since she first left the hospital. She is quite as well, and appears much more attractive than most women of her age. During the short time that Dr. Graham remained at Tracadie he heard of four cases outside of the Lazaretto. In some instances the disease is concealed as long as possible, but new cases are constantly watched for, so that, as a rule, they do not remain unrecognized. The writer spent the greater part of his time in attempting to discover the manner in which the disease commenced and spread. On this point he arrived at the following conclusions: 1. The origin and early spread of the disease cannot be explained on the theory of hereditary transmission, although this theory may account in part for its further propagation. 2. Although endemic influences, such as climate, mode of life, diet., etc., may be strong predisposing elements, they are in no case the sole cause of the disease. 3. Leprosy at Tracadie was imported from without, and, finding there favorable conditions, was propagated from one person to another by contagion. Finally, leprosy may be regarded as one of the least contagious of diseases, and one which will only spread under a combination of favoring circumstances such as were found at Tracadie. In all probability the disease is communicated solely by means of inoculation, and opportunities for such inoculation are very few indeed unless there has been long and intimate contact with diseased persons.

RUPTURE OF THE BLADDER.—Dr. B. Black (*Medical Press*) concludes: That simple rupture of the bladder may be caused by direct or indirect violence, and that the momentary position of the body determines the situation, form and extent of such rupture. The bladder will always give way at its weakest part, the anterior or posterior wall, the point being determined by the direction in which the contents of the bladder are pressed by the outside force. The only characteristic symptoms are violent, frequently-returning attempts to urinate; inability to pass water spontaneously; flow of small quantity of bloody urine on passing the catheter; strong contraction of the bladder, diminishing its capacity; free movability of the catheter, after which the small empty space speedily fills up with urine, which sets up renewed straining. The escape of bloody urine indicates extra peritoneal rupture, as rupture of the anterior wall in the vicinity of blood-vessels gives rise to hæmorrhage. Œdema of the external genitals, caused by circulation disturbance, supports the diagnosis of extra-peritoneal rupture. The fatal termination in cases of simple bladder rupture is not a consequence of peritonitis, but of intoxication by resorption of decomposed urine. Internal medication is insufficient. The first requirement is permanent catheterization, under strict antiseptic precautions. As the urine that is poured out into the abdominal cavity is the greatest source of danger to the organism, the treatment in intra-peritoneal rupture should not be expectant. At the onset, or increase of local symptoms, if the general condition be gravely affected the following is the only mode of procedure calculated to save life: Laparotomy, removal of the urine poured into the abdominal cavity, thorough disinfection, and, finally, closure of the bladder-wound by suture. In extra-peritoneal rupture, when urine has permeated the extra-peritoneal connective tissue, expectant treatment is allowable so long as changes at the centre of infiltration do not point to the necessity for surgical interference. The main point in treatment is the employment of a retaining catheter, with occasional cautious washing out of the bladder with some antiseptic fluid, in order that no decomposable fluids may be allowed to remain to jeopardize the patient.

ANCIENT GASTROSTOMY.—Dr. Jas. Dixon (*Medical Times and Gazette*) once more brings to light the case of a German peasant who (in 1635), wishing to induce vomiting, tickled his fauces with the handle of a table-knife, which slipped into his stomach. He tried the very simple plan of placing himself with his head downward, but finding that the knife did not stir, he went to Königsburg, and applied for advice to Dr. Becker. The whole *collegium medicum* of the city were invited to deliberate on the case, and a further opinion was requested from the medical Faculty of Leyden. These learned doctors returned a solemn reply, divided into ten heads, finally sanctioning an operation. Dr. Becker encouraged the man to submit, by relating a similar case which had been successfully operated on at Prague, and then, on July 9th, handed him over to Daniel Schwaben, "Surgeon and Lithotomist." All present having joined in solemn prayer for success, the man was bound to a plank, and the surgeon made a vertical incision below the false ribs on the left side, two fingers' breadth long. This seems a very small opening; and, indeed, in all the three drawings it is represented as a full hand's breadth from end to end. Lakin speaks of the "two fingers' breadth" as indicating the point below the ribs where the incision was begun, not the length of the incision itself. The abdominal cavity having been opened, the stomach was caught up with a curved needle and drawn forward. In doing this the point of the knife was felt and cut down upon, then seized, and the knife drawn out. No attempt was made to close the wound in the stomach, which is described as spontaneously shrinking together. The external incision was united with five sutures, over which a most fantastically-compounded poultice was applied. Nutritive enemata were not thought of, and some soup was taken by the mouth on the very day of the operation, and was followed up by a powder and mixture. The patient seems to have resumed his ordinary diet within a few weeks after the operation. The wound healed completely; the man regained his health, and in 1643 was married; the name of the bride and the date and place of the marriage being duly recorded by Dr. Becker in his MS. Another proof that the patient was living several years after the operation is afforded by a quaint entry in the diary of John Evelyn. He visited Leyden, and under date of August, 1641, describes his visit to the anatomy school, where, he says, "among other rarities I was shown the knife newly taken out of a drunken Dutchman's gut, by an incision in his side, after it had slipped from his fingers into his stomach. The pictures of the chirurgeon and his patient, both living, were there." In Becker's MS., in his book, and in Lakin's translation, the patient is shown with the incision in his abdomen; and in the margin the knife is depicted of its natural size. The blade and handle together measure about seven inches. Dr. Hagens, in concluding his paper, mentions the celebrated case of "*l'homme à fourchette*" at Paris, and Felicet's "*taille stomacale*" for extracting a spoon; Schwaben's knife, he adds, completes the *Besteck.*

An Insane Family.—Dr. S. V. Clevenger (*Med. Jour. and Examiner*, April, 1884) reports the following instances of insanity occurring in one family: Apaline H., aged 37, now a terminal dement, entered the Cook County Hospital for the Insane seven years ago in a maniacal condition, having been insane for more than eight years before admission. She has passed the demented stage of filthiness, incoherence and unconcern for everything but eating. Both a son and daughter are also in the asylum. With the proof of heredity in their cases, their ages would indicate the mother's predisposition to insanity dated to her juvenility, and renders it probable that she inherited the taint. Nellie H., daughter of preceding, aged 20, American, single; admitted August 9, 1883. Insanity has been approaching gradually "for years." Depressed, with occasional silliness and explosions of anger; is in fair health; careful to dress neatly; converses fairly well. She seemed to realize her condition, and on arrival begged not to be taken to the same ward where her mother was. She asked anxiously daily if she is considered as better and appearing much improved. She was sent home August 26, but her friends returned her in a nearly demented state November 24 following. Deterioration is gradual, but sure. Her face is growing "soggy," expressionless, and she often stands in one place for hours unconcerned about her surroundings. Edward H., brother of preceding, aged 25, American, single; admitted October 25, 1883. His insanity has gradually increased during past years. Three weeks before admission began to chase peddlers; became noisy and more silly than formerly. Imagines himself a big Indian. The following is from his pen, and a fair sample of insane literature: "Cook Co Insane Asylum Cook Co Ills "Dear ——: I am still in the insane Asylum getting along well and if You have anything to send me Please bring it Yourself or send it by mail Yours ever lovingly my mother is getting better I hope ten Years is a long time for a lady to be out of her mind. I ask Your mother for Your hand She as You may remember concented my fortune is small but my love is big, and my hate is still bigger so remember if You have anything to send to me Georg w washington Stone Dead or alive. You can do as you wish I lost my cent my Post office money orders have been taken from me and Whatever wase done with them I dont know. They may have locked them up taken away from me and Yoused for some other purpose You can speak to your mother or write and ask Your Father to Please and help you if he can and then some time tell him I asck You for your hand as my WIFE and in case of war I must leave You at home, unless you are willing to follow me, but I would rather leave you at home with your mother in such times so I will be more ably to attend to my bussiness better when I am alone thats the reason Dear —— when I tend to bussiness I alwase go alone and let me know if Fred —— and your mother hase asck your pardon for what they done to you and me He Insulted me and You in my absent tell your Father how you fell against me for protecktion My Mother and my Fathers left wills for me but I never see them, or, they were never shown to me after me visiting Chicago three different times so I think it would be nessessery to have my Parents attend to this matter of bussiness, for me, or if they whant me to attend to it for them I can do so but would rather my *Father* would attend to it for me Chief Apach and several other tripes have been wronged and they or rather I came to them I smoked the pipe with them and the pipe said War, my tripe are the Commanches they said pease. when I smoke pipe it meant pipe, and when we whant Peasee wee make our own pease or our own warr) Ingland whants war let them make there own warr my Country lives in pease unles they force use and thats what they have done. so let them learn to make pease with Americka. My mother named me when first born Washington Yours truly Edward P. S. Notice this letter well and save it for me to read again when I return home or return to Chicago as I have no home. only among my tripe of Indians the Comanch."

Hebephrenia.—Kiernan (*Detroit Lancet*, January, 1884) states that hebephrenia is a chronic psychosis characterized by an initial condition of depression, by an intense egotism, great obtrusiveness, silly excitability, religious and erotic ideas, more or less hypochondriasis of a simulated type, impulsive acts and gradual dementia. The victim is young, with a strong hereditary history, very retiring in his disposition, and inclined to be a good deal alone. He is generally regarded as the model youth of the family, He has been a member of the Church, given to search the Scriptures diligently, and to praying and acting as an exhorter. As Maudsley says, it is very remarkable what a strain of exalted sentiment and lofty idealism he professes. The world is too coarsely selfish and rudely practical for his fine sensibilities and nice aspirations. Notwithstanding he is sunk in degrading self-indulgence, he will pour out loftily-pitched moral sentiments, and take the world hotly to task in conceited fashion for its low aims and gross ways. His excitement is of a purposeless character. He perpetrates mischievous acts ; sometimes is impulsively erotic in the lowest sense of the term. He neglects his personal appearance. His mental powers gradually become enfeebled. Physically, he presents a dilated pupil and markedly deficient capillary circulation. Constipation and disorders of digestion are frequently present.

Treatment of Chorea.—Dr. C. Hughes, St. Louis, Mo. (*Weekly Medical Review*), says : "A physician to treat chorea should, as far as possible, suppress involuntary movement from the very beginning by giving the child the necessary moral encouragement, and strengthening its will-power by surrounding the child with new demands upon its attention and volition as well as by medication. The sympathetic treatment that fosters hysteria is equally objectionable in chorea. The child wants encouragement that it may not yield any more of its control than it is obliged to, in order that it may not become discouraged and give up entirely to the erratic movements. The will should be made to pass even, though ever so imperfectly, over the channels of motor nerve conduction, so that the "insanity of the muscles" may not become complete, pending our efforts at physiological reconstruction. Medical treatment should be descending cerebro-spinal galvanism and arsenic to restore trophic nerve-power and tranquilize the psycho-motor area, chloral hydrate and sodium, bromide in moderation, especially at night, to secure cerebro-spinal rest, and tonics, iron, hypophosphites, zinc, cod-liver oil, and strychnia, the latter very sparingly. Milk diet is preferable to all other simple substances, but the patient should be fed on a generous variety of food. After the involuntary tumult of the muscles has subsided, the physician should still look after the patient until a re-assuring vigor of constitution is established, and such advice should be given as will tend to promote continued growth in new strength, and give the best assurance against the return of this singular and sometimes formidable expression of nerve irritability. If the patients be watched closely, it will be found that some of them are troubled with symptoms of irritation and spasms. When the spasm is not great enough to attract attention in the day-time, there will be reasons to suspect its existence from the statement made by the nurse in regard to the child's having a troublesome night cough."

ORIGINAL TRANSLATIONS.

RATIONAL TREATMENT OF TYPHOID FEVER. By Dr. L. RÉAL, Interne Laureate, Etc. Paris. Translated by H. McS. GAMBLE, M.D., Moorefield, West Va.

Since 1862, I have had an idea of applying more particularly to typhoid fever a rational and immediately efficacious treatment (subnitrate of bismuth in large doses, 15 to 30 grammes a day) that I had been in the habit of employing for several years past for the suppression of an element, principal or accessory, in several primary or secondary affections of the digestive canal, and especially of the small or large intestine; I speak of putrid infection, or rather of putridity. Certain conditions favor putridity in the intestine. An inflammation more or less profound, erythematous or ulcerous, or simply a permanent febrile state, may profoundly modify or even, for the time being, suppress the normal secretions of the whole digestive apparatus—normal secretions evidently protective against putridity by reason of their peculiar chemical properties; then the matters contained in the intestine, abandoned in a manner to themselves, and subjected to the favorable conditions of humidity and heat, enter actively into putrid fermentation, especially if ulcerations or an exudative inflammation pour into the bowel the peculiarly-alterable products of excretion, such as albumen, blood or pus.

The normal odor *sui generis* of healthy fecal matters should not be confounded with the fetidness of ammoniacal compounds, of *ptomaines*, as we say to-day, which stools coming from diseased intestines present. The odor of healthy fecal matter seems to me to proceed from a substance secreted by the intestine itself, and which must have a very great analogy with thymic acid, endowed with such active antiseptic properties.

Biological chemistry will settle the question experimentally; the preceding physiological deductions suffice for my purpose.

Once the putrid intestinal focus established, absorption, so active and so normal in the intestine, carries its product into the blood, which, as well as the whole organism with it, becomes poisoned thereby. There results from this a vicious circle; in fact, the general putrid infection tends to increase the intensity of the intestinal putridity by suppressing, by a sort of special paralyzing action, more completely even than at the beginning, the normal digestive secretions. The existence of this vicious circle explains the long duration and the gravity of the affections in which intestinal putridity plays a predominant rôle (typhoid fever, dysentery, typhus of horned cattle). To break the continuity of this chain by rapidly suppressing the putrid element is to *simplify* the disease and to prepare for a promptly favorable solution of it.

The antiputrid treatment, called to-day antiseptic, of ulcers of the intestine has the effect of greatly attenuating or even of completely suppressing two of the most redoubtable elements of typhoid fever. These elements are:

1. Intestinal lymphangitis and mesenteric adenitis, new causes of general poisoning and of dangerous febrile reactions, of paralyzing abdominal pains, inducing swelling of the abdomen with corresponding respiratory embarrassment. In order to demonstrate this proposition, I rest upon the exact knowledge of what takes place in external lymphangitis or in erysipelas. When the intestinal ulcerations have existed for a long time—abandoned to themselves, in a manner, without treatment—in contact with matters of an irritating nature and of a bad character, they become the point of departure of lymphangitis and of mesenteric adenitis. As I have clearly shown (in the thesis of Dr. Guyot, 1868, and in the *Union Médicale*, September 20th, 1870, as well as in my paper upon "Erysipelas," recently approved by the Academy of Sciences, 1884) the best, the only means of opposing preventively, or of arresting in their evolution these cases of rectilinear or diffused lymphangitis, is to suppress their source by ameliorating the conditions of the lesion which serves always as their point of departure; this result is obtained immediately that the ulcerations, instead of bathing in an infectious liquid, are brought in contact with a reparative agent.

2. The infectious nephritis, which is perhaps determined rather by the absorption of putrid matters and the lymphangitis than by primitive microbic infection (as in diphtheria and scarlatina), the nephritis proceeds as much and even more from the foci of secondary infection than from the primary contamination.

One sees also how important it is, in typhoid fever as well as in these two other kinds of infection, to prevent at an early hour the secondary effects from becoming causes of tertiary effects; for there is no doubt that the renal troubles, with the more or less complete uræmia that they occasion, become in their turn causes of quartenary phenomena of very great gravity, delirium, ataxo-adynamia, tending to gangrene from pressure, etc.

In reference to those diseases in which renal troubles are always threatening, and in which from the very start it is necessary to guard against them, I will say in passing that there is no more delicate condition as to intolerance of a large number of medicines, and I will add even of aliments. So I have always considered it very dangerous to administer in typhoid fever a good many dynamical remedies, such as quinine, salicylate of soda, phenic acid, vesicatories, etc. These remedies badly tolerated, *when they are absorbed*, are positively injurious by favoring the début of nephritis, or by aggravating it when it exists. This is true likewise of almost all aliments other than milk. As to a useful remedy, I see, so to speak, only alcohol or chloral, which with me have succeeded very well by their favorable action upon uropœsis in dissipating comatose or ataxic symptoms; thus, among other cases, in a boy, a child six years of age, appearing to a consulting physician of the Hospital Trousseau to be in a desperate state, a few fractional doses of chloral diluted with a good deal of water (100 grammes to 2 grammes of chloral) put an end to the comatose uræmic condition, which had been induced, I believe, by the moderate effort that had been made to combat a pulmonary engoulement by a very slight cantharidization. To sum up, the antiputrid treatment of the intestine and of its ulcers, by suppressing the putrid absorption and intoxication, by greatly attenuating or by dissipating the effects of lymphangitis and of the infectious nephritis; this antiputrid treatment, I say, modifies very notably the aspect of the disease, and causes its most salient symptoms to disappear, such as delirium, muscular weakness, painfulness and swelling of the abdomen, dryness of the mouth and of the throat. The saliva and the other digestive secretions being less disturbed, there follows a most important corollary for the treatment and the progress of the disease, as well as of convalescence. Alimentation, above all by milk, becomes possible under conditions quite other than when the treatment is different.

Typhoid fever thus simplified, I speak of serious cases, lasts from twelve to sixteen days, counting from the day of taking to bed until the fall of the pulse and of the temperature. But, even then, the treatment, neither medical nor alimentary should be entirely abandoned, under the penalty of incurring the risk of seeing the patient taken with a relapse. I cannot admit that the relapse is the recommencement of the cycle of the primitive microbic disease. The relapse is only the awakening of a fire that has been asleep under the ashes; it is a commencement of lymphangitis starting from one or from several intestinal ulcers that one has not had the patience to treat a sufficiently long time; the sudden painfulness of the abdomen, with swelling and the return of the diarrhœa, which had ceased before, establish the well-grounded basis of my opinion. I cite a typical example further on. Or, again, it is a relapse of albuminuric nephritis occasioned by the premature abandonment of the milk régime, combined sometimes with taking cold. I have likewise described a typical example of this kind further on. These two cases have rapidly recovered in spite of their gravity, because the proper treatment was rapidly applied to each of them: in the case of lymphangitis, a return to sufficient doses of bismuth; in the case of nephritis, the employment of milk, of chloral and of a purgative.

MODE OF APPLYING THE TREATMENT.

I have already said succinctly, at the commencement of this paper, that the base of the treatment is the subnitrate of bismuth in doses relatively large, that is to say, 15 to 30 grammes a day, a quantity usually sufficient to suppress entirely in twenty-four to thirty hours all intestinal putridity. Subnitrate of bismuth is, at the same time, the most inoffensive and the most efficacious of agents capital of causing intestinal putridity to rapidly disappear; it is not, however, absolutely the only inoffensive agent that has the power to accomplish this result.

Three essential conditions ought to be exacted of all intestinal disinfecting agents:

1st. They ought to be harmless, and should not become poisonous in any case. 2d. They should be such that they can be made to reach their destination in the intestine without absorbtion on the way. This condition is very important, for without it we could not count upon any certain result. For this reason, it is necessary that the disinfecting agent should be a powder insoluble in the digestive canal. 3d. It is nevertheless necessary that the agent employed should have a real chemical action upon the putrid matters, an action such as will destroy their injurious effect.

These three conditions I have found, combined with a somewhat variable activity, however, in the oxides and the salts, insoluble in water, of the innoxious metals, such as bismuth, manganese, iron—combined, be it understood, with acids which are themselves harmless. Thus, the oxides of bismuth, of iron and of manganese would meet more or less advantageously the conditions above indicated; the subnitrate of bismuth, the carbonate of the same metal, the hydrated and gelatinous carbonates of the peroxides of manganese and iron are the salts of these metals which ought to be preferred, as inoffensive in the first place, as having, moreover, the most prompt and the most complete efficacy. It is principally by their *desulphurizing* action upon the putrid matters that these agents are disinfecting. The sulphuretted hydrogen (sulphydric acid) already existing, or in the nascent state, is found fixed upon the metallic oxide, transformed thus into an insoluble sulphuret, black and completely inoffensive. One of the most deleterious gases in solution in the putrid matters, the sulphydrate of ammonia is destroyed, especially when the subnitrate of bismuth is employed; the sulphydric acid is fixed upon the oxide of bismuth, and the ammonia combines with the nitric acid set free. When it is a carbonate which is employed, a similar double decomposition takes place; the carbonate of ammonia which then remains in the intestine is in truth more irritating than the nitrate, but it is by no means poisonous in the quantity in which it exists. When the subnitrate of bismuth has been employed, the intestinal gases are then no longer either sulphurous or ammoniacal. They are no longer composed of other than bi-carbonated hydrogen, similar to illuminating gas, the odor of which they almost exactly possess, and like the gases discharged by herbivorous animals in health, horses for example. The putrid matters thus desulphuretted and deprived of ammonia have no longer any odor.

There exists still another harmless and insoluble powder capable of rendering some service, although much less than bismuth. It is the powder of vegetable charcoal, which I utilized five years ago as an adjuvant to bismuth in the case of a young typhoid fever patient thirteen years old, employed by M. D. Bienfait, but the physical absorbent action of the charcoal does not equal the chemical efficacy of the bismuth.

MODE OF ADMINISTRATION.

Dose.—The first day of the treatment, in order to arrive as quickly as possible at complete disinfection, I ordinarily caused to be administered a fourth part of an injection to which ten grammes of subnitrate of bismuth have been added. At the same time twenty to twenty-five grammes are given by the mouth as quickly as possible, in three or four doses tolerably close to each other, an hour or half an hour, for example (each dose is given in a little water or mixed with syrup of acacia or thickened milk).

The second day, more injection of bismuth. By the mouth the same dose is given in the same way, taking care to distribute the three or four doses in nearly equal intervals through the twenty-four hours.

As to the dose, it is well understood that it is not absolutely fixed. As the medicine is entirely harmless, and even inert, it is the quantity which entirely disinfects that is the best; elevating it too much is never to be feared. It is better to go beyond than to fall short, and one is warned that he has not given enough when the fecal matters have not been entirely disinfected.

Towards the end of the treatment, it is certain that the daily quantity may be gradually diminished when the thoroughly disinfected matters become less and less black, and we can even perceive particles of bismuth that have remained white from having found no sulphydric acid to unite with.

Generally, although the ulcerations persist, the removal from the intestine of the putrid and irritating matters that it contained suffices to arrest the diarrhœa; sometimes the diarrhœa persists, sometimes a certain amount of constipation is established if care has not been taken to oppose it each day, by giving ten or fifteen grammes, and even more, of the sulphate of soda by the mouth or by injection.

During the whole duration of the treatment, I endeavor to have the patient take about two litres of unsweetened milk, and diluted sometimes with Vals water (from Précieuse) or from some other moderately alkaline spring. I sometimes add a bottle or a litre of good beer, or three to eight centilitres of good cognac, either in milk or in a little alkaline water.

It is difficult to compile very reliable statistics of typhoid fever, the point being to discover what cases are introduced into these statistics. At the time of the last discussion in the Academy of Medicine, concerning cold baths in Lyon and in Germany, it was demonstrated that febrile cases, light and doubtful in their nature, were counted among the cases of true typhoid fever. Besides, according to the years, and even according to the quarters of the same city, as Paris, the cases may be more or less grave. Nevertheless, and although I think that it is preferable, when it can be done, to follow the relations of a treatment with the phenomena of the disease, I present briefly my personal statistics of the past twenty-two years, and in a pretty extended zone of Paris. Of nineteen cases, from 1862 to 1870, I have not lost a single one of those to which the treatment has been applied; in this same period, I have seen two patients die to whom I had been called after seventeen days for the one, and after thirty-nine days for the other, of confinement to the bed; they had had grave lymphangitis which had caused purulent infiltration of the mesenteric ganglia.

From 1870 to 1884, of sixty-two patients I have lost but two, whose history I have succinctly reported. The first, six months pregnant, after two days of intestinal and nasal hæmorrhage, which I succeeded in arresting, had an abortion, with uterine inertia and frightful hæmorrhage, in spite of the attempts at compression of the aorta.

The second case occurred in the month of June, 1884. The antiputrid treatment had not been pursued at the commencement, and imperfectly so towards the end; grave complications of intestinal lymphangitis with albuminuria prevented the very puny, originally very exsanguine patient, and the last of four girls, all dead, from resisting the disease. If the antiputrid treatment had been carried out better, it is evident to my mind that the little patient would not have had this lymphangitis born of the intestinal putrefaction, as I verified the first day of the access of the fever with 40.5°, which was the twelfth day of confinement to bed.

Here follow the histories of several cases, day by day, illustrating the results of the above mode of treatment.

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ORIGINAL ABSTRACTS.

Chloroform in Parturition.—Dr. Savill (*Obstetric Gazette*) gives the following rules respecting chloroform: 1. Never give it to a woman who has a tendency to flood during every confinement, or to those who have great relaxation of fibre, or weak, anæmic women in their eighth or tenth confinement, except for necessity. 2. Do not give it where labor is complicated with severe vomiting, or with acute heart or lung trouble, unless there is an imperative demand for it. 3. It should not be given to complete anæsthesia except for operations, convulsions or spasms of the cervix, and then one person should devote his entire attention to it. 4. The inhalation should be stopped directly the pulse becomes weak or the respiration irregular. 5. Do not give it if there be grounds to fear a fatty or enfeebled cardiac wall. 6. In all cases where it has been given there should be extra care to prevent post-partum hæmorrhage.

Pyothorax.—Drs. E. L. Bruen and J. W. White (*Medical and Surgical Reporter*, June 5, 1884) conclude: 1. Those cases of pleural effusion which are likely to become purulent, and therefore to require operative treatment, are those occurring in persons of lowered vitality, scrofulous diathesis, or who suffer from intercurrent disease. 2. The diagnosis of empyema can only be made with absolute certainty by puncture and inspection of the fluid. This method of examination need not be delayed for fear of favoring the purulent transformation of a serous fluid, if proper aseptic precautions are observed. 3. In young children, one or two aspirations will often suffice for a cure. If these fail, incision of the chest, without the introduction of a drainage tube, is often all that is requisite. 4. In older children and in adults it is proper to aspirate once; but, recovery not resulting promptly, a large drainage tube should be inserted at the most dependent point. 5. If after this drainage is still imperfect, as shown by the fetid character of the discharge, a second opening should be made, and a tube carried directly across the base of the cavity. 6. If after a suitable delay (from two to four months) there is no disposition to permanent closure of the suppurating cavity, but if the lung has expanded sufficiently to indicate that it is capable of further descent, it would then be proper to facilitate its expansion and the obliteration of the cavity by removing certain portions of the ribs of the affected side. 7. If thorough drainage is accomplished, the use of disinfectants by intra-thoracic injection is rendered unnecessary, unless a stimulant to the granulating surface is required. 8. In cases where the lung is at the bottom of the chest and bound fast to the diaphragm, or in which it has been so atrophied prior to aspiration that there is no possibility of reinflation, or in which it is occupied by a tuberculous or an inflammatory infiltration, this operation is contra-indicated.

PAINLESS CAUTERIZATION OF CHANCROIDS.—Dr. Thomas Dimock (*Medical Bulletin*, June, 1884) says: The ordinary cauterization treatment consists in the application of strong nitric acid or silver nitrate directly to the part, either of which, for the time being, causes intense pain, especially if nitrate of silver be applied; the application of the last-named caustic to any chancroidal sore is never followed by the speedy results which attend the application of nitric acid. A comparatively painless method of cauterization is the following: First, thoroughly cleanse the sore and all surrounding parts with a solution of mercury bichloride (1 to 1,000). Let this ablution of the penis involve all of the organ exposed after drawing back the foreskin. Then protect the healthy surface adjoining the sore from the action of the acid with oil or vaseline; after which apply to the diseased part a coating of chemically-pure carbolic acid, to be followed immediately by strong nitric acid; after which iodoform or zinc oxide can be dusted over the part. The zinc oxide acts just as nicely as the iodoform, and is certainly more agreeable to the patient's sense of smell, as well as that of his neighbors. The next few days the application of a little black wash two or three times a day, and absolute cleanliness, is all that is necessary to effect a cure, even in the most sluggish cases. In this way the painful operation of burning is reduced to a minimum, which in some cases is followed by great prostration; besides, it sets up a healthy action in the sore in far less time. Dr. Dimock has treated in this manner some forty cases, with the most satisfactory results in every instance.

IMMORAL CONDUCT AS A SYMPTOM OF PARETIC DEMENTIA.—In 1882 the New York State Medical Society, at the instigation of Dr. J. P. Gray (*Alienist and Neurologist*), passed the resolution that the physician was not justified in drawing conclusions from moral manifestations of conduct, that department belonging exclusively to law. It has been well said by Dr. Hughes that it was all absurdity for medical societies to define the province of any department of science. The absurdity of such resolutions is shown by the following cases of immoral conduct (*Journal of Nervous and Mental Disease*), ushering in paretic dementia, which are reported by Le Grand du Saulle (*Gazette des Hopitaux*, September 11, 1883): A rich functionary was arrested in a shop at the moment while putting into his pocket, without payment, two porcelain articles of insignificant value. He was soon found to be a paretic dement. A highly-respected notary, who had exercised his calling with honor for years, suddenly indulged in dishonorable practice, and was obliged to abandon his calling. He then became a wine merchant, ran through $5,000 in eighteen months, and died a paretic dement. A cashier became careless, apathetic, neglected his accounts and then "forced" them, began to frequent places of bad repute, stealing to fill his pocket-book.

He died from one of the apoplectiform attacks so frequent in paretic dementia, and his family were obliged to repay his employers $5,000 lost or taken by him. One case of stealing as a prodromic symptom of paretic dementia was reported in Volume VIII. of the above-mentioned journal, and, as Le Grand du Saulle says, violation of public decency and outrages may also be prodromic symptoms of paretic dementia.

JEQUIRITY AND ITS DANGERS.—Valleix (*Thèse de Paris,* 1884) concludes: 1. Jequirity applied in infusion to the conjunctiva provokes, in twenty-four hours, a purulent ophthalmia of a croupous nature. 2. The intensity of the artificial ophthalmia thus produced is in proportion to the strength of the infusion and the number of applications. 3. The inflammatory phenomena disappear of themselves in eight to fifteen days, without the slightest danger to the cornea. 4. The jequirity ophthalmia is, sui generis, easily distinguished by its course and symptoms. 5. Jequirity rapidly cures true trachoma and the pannus which accompanies it. 6. It is employed with success in the scrofulous pannus and scrofulous corneal abscesses and ulcers. 7. It is contra-indicated in papillary hypertrophy and follicular conjunctivitis, since here it is never curative and may be dangerous. 8. Its curative action is due to a bacillus, and not to a chemical principle. As a commentary on these conclusions the following case of Dr. W. E. Ground may be cited. He states (*Weekly Medical Review,* June 28, 1884) that a thirteen-year old girl had been suffering for eight years with trachoma and inveterate pannus, and had been treated by general practitioners and specialists, but without permanent good results. Having cured a similar case with jequirity, he resolved to use it in this case. An infusion of decorticated beans, according to Dr. Wecker's formula, was dropped into the eye, by brushing the everted lids, and applying compresses wet with the infusion to the external lids. On the third day active suppurative inflammation set in. The lids were chemosed, swollen and hot. Considerable constitutional disturbance, pulse 120, temperature 102½, tongue parched, thirst great. Some constitutional manifestations were noticed in all of the previous cases that proved successful. The right eye progressed favorably and a cure was effected at the end of three weeks. The left eye from the first presented bad symptoms. The cornea assumed on the fourth day a cloudy appearance. The edges of the lids and chemotic swelling look dry and crusted. The anterior chamber is diminished in size and occupied by a small hypopyon; the aqueous humor is clouded and iris pressed forward, discolored and of a yellowish hue; pupil dilated, tension of the eye increased, and acutely sensitive to the touch. The movement greatly impaired on account of the infiltration of the subconjunctival tissue. Owing to the opacity of the cornea and anterior chamber a view of the tissues beyond the lens could not be obtained. The next day two small ulcers were noticeable on the cornea. Although the chemosis was not so great the other symptoms seemed to be much aggravated, and on the same day paracentesis cornea was performed, together with the treatment usually employed in such cases, but to no purpose. The disease progressed, vomiting occurred, agonizing pain, flashes of light. The patient could not distinguish between daylight and darkness. The cornea is entirely infiltrated with pus and soon becomes shriveled up into a yellowish membrane like wash leather. The above symptoms prevail until the tenth day after the application of the jequirity, when the inflammation subsides. The anterior part of the eye, consisting of the cornea, iris and ciliary body, with the lens were destroyed, and of course sight entirely gone, excepting perhaps a slight degree of light perception. The stump healed nicely and atrophied to about one-fifth the normal size. As sympathetic trouble seldom follows this disease the doctor decided not to enucleate.

SELECTIONS.

THE NATURAL PRODUCTION OF MALARIA, AND THE MEANS OF MAKING MALARIAL COUNTRIES HEALTHIER. An Address delivered at the Eighth Session of the International Medical Congress, Copenhagen, August 12, 1884. By CONRAD TOMMASI CRUDELI, M.D., Professor of Hygiene, University of Rome, Italy.

GENTLEMEN: Before entering upon my subject I must crave the indulgence of those of my colleagues whose language I have borrowed for any Italicisms that I may use, as well as for the foreign accent which must strike their ears more or less disagreeably. Desiring to respond as well as lay in my power to the invitation with which I have been honored to discuss the hygienic questions relating to malaria, I have chosen the French language as being the one in which, apart from my mother tongue, I could express myself with the greatest ease and precision.

I shall be pardoned also, I hope, for having employed the terms "malaria" and "malarial districts" in place of the more commonly used expressions "paludal miasm" (*miasme paludéen*) and "marshy regions" (*contrées marécageuses*). The substitution is not a happy one from a literary point of view, but I have made it deliberately and for the following reason: The idea that intermittent and pernicious fevers are engendered by putrid emanations from swamps and marshes is one of those semi-scientific assumptions which have contributed most to lead astray the investigations of scientists and the work of public administrations. This idea, so widespread and so well established by the traditions of the Schools, is radically false. The specific ferment which engenders those fevers by its accumulation in the atmosphere which we breathe is not exclusively of paludal origin, and still less is it a product of putrefaction. Indeed, in every region of the globe between the two arctic circles there are swamps and marshes, steeping-tanks of hemp and flax, large deltas where salt and fresh waters mix, and yet there is no malaria there, although putrid decomposition is on every side. On the other hand, in the same parts of the globe there are places which are not, and never were marshy, and in which there is not the least trace of putrefaction, but which, nevertheless, produce malaria in abundance. I reject, therefore, wholly the paludal assumption, and in order to express this view in the title of my paper, have been forced to employ terms which to my hearers may sound like Italicisms.

The Italians generally have not this paludal notion, for experience taught them long ago that malaria is produced nearly everywhere; in marshy districts as well as in those which might almost be called arid; in a volcanic soil as well as in the deposits of the miocene and pliocene periods and the ancient and modern alluvia; in a soil rich in organic matters as well as in one containing almost none; in the plains as well as on the hills or mountains. The word malaria (bad air), which it is the sad privilege of Italy to have lent to all languages to express the cause of intermittent and pernicious fevers, represents then, among the majority of our rural populations, the idea of an agent which may infect any sort of country, whatever may be its hydraulic and topographical conditions, and whatever may be its geological formation. This word, therefore, is the one best suited to designate this specific ferment in question, and I have on this account employed it and its adjectival derivatives in order not to resuscitate the idea of the exclusively paludal origin of the morbific agent.

I shall not tarry long to speak of the nature of this ferment, for the studies bearing upon that point, although far advanced, are not yet completed. I may remark, however, that the idea that the ferment is formed of living organisms is a very old one, and has not arisen suddenly because of the modern theories of the parasitic nature of disease. From the time of Varrar (who believed that malaria was made up of invisible mites suspended in the atmosphere) to our own day this theory has been several times advanced by hygienists. Independently of the general considerations which led Rasori, and later Henle, to formulate the doctrine of the *contagium vivum* of infection (long before the progress of microscopical science had revealed the existence of living ferments), there were peculiar circumstances as regards malaria which should have impelled minds to look in that direction, even in times long past.

Some of these circumstances are of a nature to strike every serious observer, and deserve a few moments' attention. How could one maintain, for example, that this ferment is a product of chemical reactions taking place in the ground, when it is seen to remain constantly the same whatever may be the composition of the soil from which it emanates? As long as the paludal theory held sway the chemical interpretation of this identity of the product in every latitude was easy. Rica does not hesitate to admit that when a swampy tract is heated by the sun's rays to the necessary point for the putrid decomposition of the organic matters contained in it, the "chemical ferment," or rather the "mephitic gases," to which is attributed the morbific action, are developed, whatever may be the distance from the equator at which this marshy region lies. But since it has been ascertained that malaria is produced in soils of the most varied chemical composition, the persistent identity of this product has become chemically inexplicable; while it is, however, readily conceivable, if one admits that malaria is an organized ferment which easily finds the necessary conditions for its life and multiplication in the most varied soils, as is the case with millions of other organisms vastly superior to the rudimentary vegetables which constitute the living ferments.

The same thing may be said of the progressive intensity of the morbific production in abandoned malarious districts This fact has been historically proven in several parts of the earth, and especially in Italy. A large number of Grecian, Etruscan and Latin cities, even Rome itself, sprang up in malarious territories and attained a high state of prosperity. First among the reasons for this success must be placed the works undertaken with a view of rendering these places more salubrious, and which lessened the evil production, but almost never extinguished it completely. After the abandonment of these localities, the production of malaria recommenced in a degree which went on increasing from age to age, and which has rendered some of these places actually uninhabitable. This was seen in the time of the ancient Romans, in Etruria, when it was conquered and laid waste, and in several parts of Magna Græcia, and of Sicily. From the fall of Rome even to the present day this phenomenon has been manifested in a very evident manner in the Roman Campagna, in certain parts of which, even up to the time of the Renaissance, it was possible to maintain pleasure houses, but which are now uninhabitable during the hot season. In many cases the physical conditions of the soil have undergone no appreciable change during centuries, so that it is impossible to attribute so enormous an augmentation of malaria to an increase in its annual production, itself increased by a progressive alteration of the chemical composition of the soil. But if, on the contrary, it be admitted that malaria is caused by a living organism whose successive generations accumulate in the soil, the interpretation of this fact becomes very simple.

There are, finally, peculiarities in the local charging of the atmosphere with malaria which can be explained only in this manner. If the malarial miasm were composed of gaseous bodies emanating from the soil, or rather of chemical ferments formed beneath the ground and raised into the air by gaseous or watery vapor, the charging of the atmosphere with the specific poison ought to arrive at its maximum during the hottest part of the day, when the ground is heated the most by the sun's rays, and when the evaporation of water and all chemical actions attain their maximum intensity. But this is very different from what actually occurs. The local charging of the atmosphere is always less strong during the meridian hours than at the beginning and the end of the day; that is to say, after the rising, and especially after the setting of the sun. Now it is precisely at these hours that the difference between the temperature of the lower layers of the atmosphere and that of the surface of the ground is the greatest, and that the ascending currents of air starting from the ground are the strongest. If malaria consists of solid particles contained in the soil, one may readily understand how their elevation *en masse* into the atmosphere should take place especially at these two periods of the day.

All these facts, which can be easily verified if the subject of malaria be studied on the spot and without any preconceived notions, explain the tendency which has always been manifested to attribute this specific poisoning of the air to a living organism which is multiplied in the soil; and they also explain the ardor with which hygienists have applied themselves to the production of the scientific proof.

Unfortunately, the investigations undertaken for this end have for a long time been fruitless, for the preconceived paludal theory has led investigators to occupy themselves exclusively with the inferior organisms inhabiting marshes. Among these organisms they studied especially the *hyphomycetes*, which had already acquired so great an importance in dermatology; and their entire attention was concentrated upon the aquatic algæ, without even taking the precaution to determine whether the varieties which they thought to be malarial were found in all malarious swamps, or whether they were capable of living within the human organism. It has thus happened that each observer has indicated as the cause of malaria a different variety of alga, whichever he found to be most abundant in the swampy ground that he had to examine. Thus, Salisbury has indicated the *palmella gemiasma*, which is found with us in places perfectly free from malaria, while it is often wanting in malarious marshes in the centre of Italy ; Balestra, a species of alga which is as yet indeterminate ; Bargellini, the *palmoglœa micrococca ;* Safford and Bartlett, the *hydrogastrum granulatum ;* and Archer, the *chitonoblastus œruginosus.* There is not a single one of these species the parasitic nature of which has been demonstrated ; and as regards the two last-named varieties, it can be positively denied that they are capable of producing a general infection, for the diameter of their spores and filaments is greater than that of the capillary blood-vessels.

It was only in 1879 that Klebs and myself, after having been thoroughly freed, by a long series of preparatory studies, from the unfortunate paludal idea, undertook together some investigations in malarious districts of the most varied character, marshy and not marshy. We employed the system of fractional cultivation, making experiments on animals with the final products thus obtained. We felt ourselves justified in recognizing the malarial ferment in the *schizomycete bacillus.* The numerous researches made subsequently by us, and by many other observers, in the soil and in the air of several malarious localities, as well as in the blood and in the organs of men and animals specifically infected, have put it henceforth almost beyond doubt that we really have to do with a schizomycete. Very recently, MM. Marchiafava and Celli have succeeded in demonstrating that the germs of this schizomycete attack directly the red blood globules, and destroy them, causing them to undergo a series of very characteristic changes which admit of easy verification, and which render certain the existence of a malarial infection.

Several observations made recently in Rome tend to demonstrate that the schizomycete of malaria does not always assume the complete bacillary form described by Klebs and myself ; but this morphological question possesses no further interest for the hygienist. For him the essential thing is to know that he has to deal with a living ferment which can flourish in soils of very varied composition, and without the presence of which neither marshes nor stagnant pools of water are capable of producing malaria.

We must not think, however, that all earth containing this ferment is capable of poisoning the superjacent atmosphere. Popular experience, certain modern scientific investigation, and the facts which one can often verify when the soil, which was malarious in ancient times and which has since ceased to be so, is turned up to a great depth, all agree in proving that the ground remains inoffensive as long as it is not placed in certain conditions indispensable for the multiplication of this specific ferment. Up to this point the organism lives, so to speak, in an inert state, and may remain so during centuries without losing any of its deleterious power. There is nothing in this fact that ought to surprise us, since we know that the life and the power of evolution belonging to the seeds of plants of a much higher order than these vegetable organisms constituting ferments, may remain latent for centuries, and may then revive at once when these grains are placed in the conditions suitable for their germination.

Among the conditions favorable to the multiplication of the malarial ferment contained in the soil, and to its dispersion through the superjacent atmosphere, there are three which are absolutely essential, and the concurrence of which is indispensable for the production of bad air (malaria). First, a temperature which does not fall below 20° C. (67.5° F.) ; next, a very moderate degree of permanent humidity of the soil ; and finally, the direct action of the oxygen of the air upon the strata of earth which contain the ferment. If a single one of these three conditions be wanting, the development of malaria becomes impossible. This is a point of prime importance in the natural history of malaria, and it gives us the key to most of the methods of sanitary improvement attempted by man.

Let us see first what can be done in this direction without the labor of man, for nature herself makes localities salubrious by suspending for a greater or less time the production of malaria. It is thus that winter brings about in every country a freedom from malaria which is purely thermic, for it is due simply and entirely to a sinking of the temperature below the required minimum. Indeed, if the temperature in winter rises above this minimum, there are often sudden outbreaks of malaria. Sometimes, during very warm and dry summers, the heat extracts all the humidity from the malarious soil, and thus procures for us a freedom from the disease, which is purely hydraulic. This may continue for a long time (as happened in the Roman Campagna during the years 1881 and 1882), but may also be completely destroyed by a single shower. Nature also sometimes renders a district healthy, in a manner purely atmospheric, by covering a malarious soil with earth which does not contain the malarial ferment, or with a matting formed of earth and the roots of grasses growing closely together in a natural meadow.

In the attempts of purification by suspending the malarial action, which have been devised by man, the same thing has been done ; that is to say, it has been sought to eliminate at least one of the three conditions essential to the development of the specific ferment contained in the infected soil. Naturally, they have not thought of bringing about a thermic purification, such as nature produces in winter, because of the impossibility of moderating the action of the sun ; but they have tried from all time to procure hydraulic or atmospheric purifications, and sometimes to combine these together in a very happy way.

The hydraulic systems are very numerous, for the problem which is presented, namely, that of depriving the ground of its humidity during the hot season, necessitates different solutions according to the nature and bearing of the soil. Sometimes this is done by digging open or closing ditches intended to draw away large bodies of water. At other times a system of drainage is established, by means of which the water is drawn out of the earth and its level is depressed, so that the upper malarious strata, exposed to the direct action of the air, are deprived of moisture during the hot season. This system of drainage is not a modern invention ; the Italian monks understood it as well as, and even better than, we do. In deep and loose soils they used sometimes, just as we do now, porous clay pipes ; but when the subsoil was formed of compact and nearly impermeable matters, they employed a system of drainage, the extent and grandeur of which astonish us. It is that of drainage by cavities, applied by the Etruscans, Latins and Volsci to all the Roman hills formed of volcanic tufa, the tradition of which I have found still preserved in some countries of the Abruzzi.

We may sometimes establish a double drainage, from below and from above; that is to say, to drain the subsoil, and at the same time increase the evaporation of water from the surface of the ground. It is well known that clearing off the forests of malarious countries has often proved an excellent means of making lands salubrious which were before too damp; for, by removing every obstacle to the direct action of the sun's rays upon the ground, we cause an increase of evaporation from its surface, and may thus be enabled to exhaust the superficial strata completely of their water during the hot season. In very moist lands which lend themselves readily to deep drainage, the combination of the latter with a clearing of the surface has, in almost every quarter of the globe, rendered possible a very widespread and sometimes quite lasting freedom from malaria. But, although a nearly universal experience proclaims this fact, there is a school which, following in the footsteps of Lancisi, maintains the contrary opinion, that it is necessary to preserve the forests in malarious districts, and even to increase their extent, since the trees filter the infected atmosphere and arrest the malaria in their foliage. This strange theory was formulated by Lancisi in 1714, on the occasion of the proposed clearing of a forest belonging to the Caetani family, and lying between the Pontine marshes and the district of Cistema. Lancisi was completely imbued with the paludal notion, and consequently believed that the very severe malaria of Cistema was brought by the winds from the coast marshes, instead of being produced in the soil surrounding the district, which was then covered by this forest. He believed then that the forest acted as a protective rampart, and he prevented its being cut down. But toward the middle of the present century the Caetani had the woods cleared off from the entire belt of land surrounding Cistema.

Twenty years later I was able to show that Cistema had gained greatly in salubrity. I published my observations in 1879, and, naturally, was taken to task rather sharply in the name of the sacred tradition. Happily, these recriminations led our Minister of Agriculture to have the question studied by a special commission. This commission, after a conscientious examination extending over three years of all the malarious localities in the province of Rome, has just published its report,* the conclusions of which are entirely in accord with the facts of universal experience. They were not able to verify a single fact in support of Lancisi's theory, while they found many of the same nature as that of Cistema, and which have resulted in overturning the theory entirely.

It has also been thought possible to practise drainage from above by means of plantations of certain trees which would draw considerable moisture from the earth, a method which might really be serviceable in some malarious districts. But in accordance with the idea that malaria is a product of paludal decomposition, the trees selected have almost always been the *eucalyptus*. It has been maintained that trees of so rapid a growth ought to drain the soil very actively, and also that the aroma of their foliage ought to destroy the miasmatic emanations. I have hitherto been unable to verify a single instance of the destruction of malaria by eucalyptus plantations, but I do not consider myself justified in denying the facts which have been stated by others. There is nothing to oppose the admission that these plantations, when properly made, may sometimes have been of great utility. I maintain frankly, however, that they have not always been so, and that it is necessary to guard against the exaggerations into which some have allowed themselves to fall in recent times. Such exaggerations might have been avoided if, instead of talking about these plantations on the basis of a theoretical assumption, the results only had been studied in places where the eucalyptus abounds. It would then have been known that even in the southern hemisphere, the original home of the eucalyptus, there are eucalyptus forests which are very malarious. This fact has been demonstrated by Mr. Liversige, professor in the University of Sydney, Australia. Among us also, although everybody was convinced by the statements of the press that the locality of the Tre Fontane, near Rome, had been freed from malaria by means of the eucalyptus, people were disagreeably surprised by an outbreak of very grave fever occurring throughout the whole of this colony in 1882, a year in which all the rest of the Roman Campagna enjoyed an exceptional salubrity. If alongside of these hygienic uncertainties we place the agricultural uncertainties, we must conclude that it is necessary to contend strongly against this fanatical prejudice in favor of the eucalyptus tree. These plants are, in fact, very capricious in their growth. In full vegetation during the winter in our climate they are often killed instantly by a sharp winter frost, by damp cold, by the frosts of spring, or by other causes which the botanists have not yet been able to determine. At other times, if the winters are very mild, these plants grow too rapidly in height, and then are broken short off by moderately strong winds. It should further be mentioned that these plantations are sometimes very expensive. In fact, if the earth contains too much water it must be drained under penalty of seeing the roots of the eucalyptus rot. Then again, if the subsoil is compact, it is necessary to dig deep trenches in order to give room to the long roots of these trees, and often indeed these trenches must also be drained, as is done for olive trees. The conclusion evidently is that it is better to confine ourselves to hydraulic methods of promoting the healthfulness of a locality, the immediate effects of which are less uncertain. And then, when the local conditions are such as to make it desirable to try the effects of plants possessed of strongly-absorbing powers, it is better to choose them from among the flora of our own hemisphere. This is more sure and will cost less.

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* Della influenza dei boshi sulla malaria dominante nella regiona marittima della provincia di Roma. Annali di Agricoltura, No. 77, 1884. Roma: Eredi Botta.

Simple hydraulic methods of purification, even the most perfect, do not, however, produce permanent hygienic effects, since the moisture necessary for the multiplication of the malaria in the soil is so slight that these effects may be compromised by anything whatever that is capable of restoring a moderate degree of humidity to the ground during the hot season. It has often been thought that a suspension of malarial production would be better assured by suppressing at the same time the humidity of the soil and the direct action of the oxygen of the air upon the superficial strata of earth which contain the ferment. This has been successfully accomplished by the system of overlaying (*comblées*). It consists in covering the infected soil by thick layers of uninfected earth, carried there either by the muddy waters of rivers or by the hand of man. At the same time the steady drainage of the surface and underground water is provided for. Last year I advised our Minister of War to undertake in another form an hydraulico-atmospheric purification of the district of the Janiculum surrounding the Salviati palace on the via della Longara, by draining the soil carefully and covering with a layer of very close turf all the parts of the surface which could not be macadamized. It would seem as if this system had been rather successful, since there has not been this year a single case of fever in the *personnel* of the new military college established in the Salviati palace; while in the Corsini palace, which is situated on the same side of the via della Longara, but which looks out upon that part of the Janiculum which is still uncovered, there have been some fatal cases of fever.

Furthermore, we have had in Rome, during the past few years, some very evident proofs of the efficacy of atmospheric methods of purification. I will confine myself to the relation here only of the most striking instance, one which has been furnished us in the building up of new quarters of the city. There was much discussion at first as to whether the improvements should be undertaken in the parts where they now are or in the valley of the Tiber, for the uncovered lands of the Esquiline and of the Quirinal were malarious, and, as nearly everybody then thought that the malaria of Rome was carried into the city from the coast marshes, it was supposed that this state of things was irremediable. We opposed to this view the fact of the salubrity of the Viminal, which is situated between the Esquiline and the Quirinal, and which ought to be as unhealthy as the two other hills were the malaria of the latter imported into the city instead of being indigenous. Believing it to be indigenous, we hoped that by shielding the surface of these hills from the direct action of the air (by building houses and paving the streets), the malaria would cease to be produced there. That is precisely what has happened, for the new quarters are very healthy. But the malaria is only held in abeyance and is not definitely overcome; for if an extensive excavation is made in these hills, and the contact of the air with the malarious soil is thus re-established, during a hot and damp season, the production of malaria commences anew. A complete atmospheric purification is nevertheless the most stable of all the methods of obtaining a suspension of malarial production, but unfortunately its realization is very limited, for it is restricted to inhabited localities and to sodded surfaces.

The ideal method of insuring freedom from malaria should be to obtain a permanent immunity; that is, to be able to modify the composition of the infected soil in such a way as to make it sterile as regards malaria, without taking from it the power of furnishing products useful for the social economy. But all the elements indispensable for obtaining such a result fail us utterly just here. We do not yet know what ought to be, in general terms, the composition of a soil incapable of producing malaria, yet retaining those properties which are suitable for vegetation. When we shall have arrived at this first stage, there will still be a long road to travel; and the most difficult part will be to discover a practical means of imparting this salutary composition to all the numerous varieties of malarious soils.

Scientifically, then, in the present state of our knowledge, we are unable to affirm anything on this point. Practically, we are not much further advanced. It is very probable that the combination of hydraulic purification with a forced cultivation of the soil has sometimes determined changes in its composition by which it has been rendered sterile as regards malaria. If that has happened, it has happened by chance, and we are unable to reproduce the result at will; for we have not all the data which might enable us to understand how it has come about. Most of the purifications obtained in ancient times, by means of forced cultivation, continued during centuries, have not been definite at all, but the production of malaria has been simply suspended. Hardly was the regular cultivation of the fields interrupted than the production of malaria recommenced. Among the numerous examples that I might cite in this connection, I will limit myself to that of the Roman Campagna. This seemed to have been made permanently healthy under the Antonii, but after the fall of the empire it began again to produce malaria, as if the forced cultivation through so many centuries had never been.

One might, strictly speaking, be content with such a result, and boldly undertake forced cultivation of all malarious districts, without stopping to ascertain whether the freedom from malaria so obtained would be definite, or whether the production of the poison were only suspended. Unfortunately, one is never sure of arriving at such a result, and no one can say *a priori* whether the forced cultivation of a given malarious tract will render it healthful. It must always be remembered that the first effect of forced cultivation, which requires an overturning of the soil by means of the plough, the spade and the pick, is an unfortunate one, from a hygienic point of view, whenever we have to deal with a malarious country. Experience has shown, especially in Italy and America, that this overturning of the soil almost invariably increases the local production of malaria. And this can be readily understood, since the ploughing and the digging in a soil containing the specific ferment increases the extent of surface of the ground in immediate contact with the atmosphere. This first mischievous effect is often gradually weakened by the continued cultivation, and may end by disappearing. At other times, on the contrary, it persists obstinately, and one is often forced in desperation to the resolve to level the ground again and to varnish it, so to speak, with a thick sowing of grass, if he wishes to suspend or weaken the malarial production.

However, when the local conditions will permit, it is well to try whether, by means of forced cultivation of the soil, it may not be possible to increase the efficacy of the hydraulic method of procuring immunity from malaria, or of the hydraulico-atmospheric method of "overlaying." The moment that it is known that this cultivation has frequently been advantageous, there comes forward a crowd of social reasons which induce us to attempt it, even though we be persuaded that we are about to engage in a game of chance. But to dare to attempt it is not all that is necessary; we need also the possibility of so doing, and just here we find ourselves in a vicious circle from which it is not easy to emerge. Forced cultivation cannot be accomplished without the presence of agriculturists in the region during the entire year; and the agriculturists cannot remain in the region during the fever season, for they run thereby too great a risk. For the solution of this question there is but one means: try to increase the power of resistance of the human organism to the attacks of the malaria. It is to a search after the means of accomplishing this result that I have devoted myself during the past few years.

There is nothing to hope for, as regards malaria, in acclimation. Individual acclimation is, and always has been, impossible. The malarial infection is not one of those a first attack of which confers immunity from other attacks. It is, on the contrary, a progressive infection, the duration of which is indeterminate, and which is of such a nature that a single attack may suffice to ruin the constitution for life. Collective or racial acclimation certainly existed in the past, at a time when specific remedies for pernicious malaria were unknown; and even later, when the employment of these remedies was very limited. The acclimation was due to a natural selection made by the malaria upon successive generations, from which it took away, almost without opposition, all those who possessed but a feeble individual power of resistance to the specific poison, while it spared those who possessed this power of resistance in an extraordinary degree. The first were, according to the Grecian myth, the human victims destined to appease the monster, or demon, who opposed the violation of the territory over which he had up to that time exercised an absolute sovereignty. The second became the founders of the race, and through them, from generation to generation, the collective power of resistance to the malaria was progressively increased. In our own days a like selection may take place among barbarous races, as it does among the cattle and the horses in a malarious region, but it has become an impossibility among civilized nations. By means of the specific remedies which we possess, the use of which is now so general, the lives of a large number of individuals whose resisting powers are very feeble are preserved, and these individuals beget others whose power of resistance to the action of the specific poison is still more feeble. This results, after a number of generations, in the physical degradation of that part of the human race which inhabits malarious countries.

We cannot, therefore, in the future, count upon the assistance of external natural forces to increase the power of resistance of human society against the assaults of malaria. Such an object can be obtained only by artificial means. It has been sought to attain this end by the daily administration of the salts of quinine, of the salicylates, and of the tincture of eucalyptus, each and every one tried in turn. But the salts of quinine are dear, exercise a prompt, though very transient, anti-malarial action, and, when administered for a long time, disturb rather seriously the functions of the digestive and nervous systems. The salicylates, when well prepared, are rather dear, and there is as yet no proof that they possess prophylactic powers against malaria. The alcoholic tincture of eucalyptus is useful in malarious regions (as are all the alcoholics, beginning with wine) in quickening the circulation of the blood; may it, perhaps, also act as a preservative against light attacks of malaria? Possibly. But it is very certain that it possesses no efficacy in places where malaria is severe. It will suffice to prove this to recall the two epidemics of fever which afflicted the colony of the Tre Fontane, near Rome, in 1880 and 1882. Everybody was attacked, and there were several cases of pernicious fever, although a good preparation of eucalyptus is manufactured in the place and is distributed largely to the colonists during the dangerous season of the year.

Having several times had occasion to observe, in malarious regions, that when recourse was had to arsenic in order to subdue fevers over which quinine had exerted almost no effect, relapses occurred but rarely; and having been able to satisfy myself that the arsenical treatment sometimes procured a permanent immunity in individuals who are subject to frequent attacks of malaria, I began in 1880 to employ arsenic (arsenious acid) as a prophylactic in certain portions of the Roman Campagna.

This remedy was indicated in an experiment of this sort, not only by reason of its durable anti-malarial effects, but also by its low price, by the beneficial influence which it exerts upon all the nutritive functions, and because it has no disagreeable taste, and may therefore be given to everybody, even to children. My first trials in 1880 were rather encouraging, and I felt myself justified in engaging some proprietors and the association of our Southern railroads to repeat the experiments on a large scale the following year, recommending them, however, to use arsenic in a solid form as offering an easy and certain dosage. This extensive prophylactic experiment began in 1881, and acquired constantly-increasing proportions in 1882 and 1883, which have become still larger this year. An experiment of this kind is not easy to conduct in the beginning. The name, arsenic, frightens not only those whom we desire to submit to its action, but also the physicians, whose exaggerated fears have sometimes rendered the experiments of no avail, since they were conducted too timidly and the doses of arsenic employed were altogether insufficient. But some intelligent men, especially M. Ricchi, physician-in-chief to the Southern railroads, were able speedily to triumph over these obstacles, and to place the experiment on a firm basis. The general testimony of all the facts which they have collected tends really to prove that, when the administration of arsenic is begun, some weeks before the presumed season for the appearance of the fever, and when it is continued regularly throughout the whole of this season, the power of resistance of the human organism to malaria is increased. Many individuals gained thereby a complete immunity, others a partial immunity; that is to say, they were sometimes attacked by the fever, but it never, even in very malarious districts, assumed a pernicious form, and was easily subdued by very moderate doses of quinine. Last year, for example, in the district of Borino, where the malaria is very severe, M. Ricchi experimented upon seventy-eight employés of the Southern railroads, dividing them into two equal divisions, one of which received no prophylactic treatment, while the other was submitted to a systematic arsenical treatment. At the end of the fever season it was found that several employés among the first half had been attacked by fevers of a severe type; while thirty-six of those in the second division had enjoyed a complete immunity, the three others having been attacked but so lightly that they cured themselves by quinine without seeking medical aid.

Facts of this sort are very encouraging, and the more so as the general health of those submitted to the prophylactic treatment was much improved. It was found almost invariably, upon the termination of the experiment, that there had been an increase in bodily weight and an amelioration of the anæmia which is so common in malarious districts. But, in order to arrive at such results, it is necessary to be at once bold and prudent. On the one hand, it is necessary to graduate very carefully the daily dose, never exceeding at the commencement the dose of two milligrammes (3-100 grain) per diem for adults, and never giving the arsenic upon an empty stomach. On the other hand, it is necessary to gradually push the dose up to ten or twelve milligrammes (15-100 or 18-100 grain) a day for adults, in districts where the malaria is very severe, giving the arsenic in such a way that there is never an accumulation of the drug in the stomach. Most of the experiments which have been undertaken this year are being conducted on this plan, and there is reason to hope that they will give satisfactory results.

We must not, however, rest here if we wish to attain promptly the end proposed, namely, that of planting colonies in malarious districts without exposing the colonists to grave danger. Even if we realize perfectly the hope which I conceived in 1880, and if we are enabled to prove that arsenic increases man's power of resistance to the assaults of malaria, we must not imagine that everything is accomplished. It will take a long time before the use of a preservative method of this kind becomes generalized. We have first to contend against the fear which nearly every one experiences when arsenic is mentioned, and then there will also be difficulty in establishing everywhere a proper control over its administration. In every attempt at the colonization of malarious regions it will be necessary to combat for a long time the diseases caused by malaria, and we must seek for a method of combating them by a means which is in the possession of everybody, and which shall not be dangerous to the general economy of the human organism. Those who do not know from actual experience the miseries of a malarious country think only of combating the acute forms of infection, which often place the patient in danger of death. But this danger, though great, is for the most part imaginary, provided that assistance be obtained in time. But that which desolates families, and which causes a physical degradation of the human race exposed to the attacks of malaria, is the chronic poisoning, which undermines the springs of life and produces a slow but progressive anæmia. This infection often resists all human therapeutic measures, and is even aggravated by the use of quinine, which is given during the recurrent paroxysms of fever. Quinine is, when given for a long period of time, a true poison to the vaso-motor nerves. The question, then, is to replace quinine and the alkaloids which possess an analogous physiological action, by an agent the efficacy of which against chronic malarial poisoning may be greater and the dangers of its employment less.

A happy chance has led Dr. Magliori to the discovery of an agent of this sort, which was traditionally in use by certain Italian families. It is an exceedingly simple thing—merely a decoction of lemon. It is prepared by cutting up one lemon, peel and all, into thin slices, which are then put into three glassfuls of water and the whole boiled down to one glassful. It is then strained through linen, squeezing the remains of the boiled lemon, and set aside for some hours to cool. The whole amount of the liquid is then taken fasting. It is well known that in Italy, Greece and North Africa, they often use lemon juice, or a decoction of lemon seeds, as a remedy in malarial fevers of moderate intensity; and in Guadaloupe they use for the same purpose a decoction of the bark of the roots of the lemon tree. All these popular practices tend to show that the lemon tree produces a febrifuge substance, which resides in all parts of the plant, but which would seem to be most abundant in the fruit. In fact, among the popular remedies employed against malarial infection, that which I have just described is the most efficacious, for it can be employed with good effects in acute fevers. But it is especially advantageous in combating the chronic infection, which is rebellious to the action of quinine, and in removing or moderating its deplorable effects.

Hardly had I learned of this method of medication, when I hastened to induce some proprietors in the Roman Campagna to try it with their farm hands; and, after witnessing the good results there, I endeavored to persuade practitioners to make a trial of the same treatment. I was ridiculed a little at first, for they thought it rather singular that a professor should be trying to popularize an old woman's remedy. In reply to that I answered that practical medicine would not have existed had it not known how to treasure up from age to age the facts of popular experience; and I ventured to remark that, had the Countess de Chinchon waited until methodical researches had been made into the physiological action of cinchona bark, before popularizing the remedy, the use of which she had learned from the semi-barbarous Peruvians, in all probability humanity would still, as regards malaria, be dependent upon the medication practised in the middle ages. Happily, these arguments had the desired effect upon certain distinguished practitioners, some of whom, especially in Sicily and Tuscany, have already collected together a tolerably large number of very encouraging observations. One of them, Dr. Mascagni, of Avezzo, tried the remedy in his own person, and succeeded in promptly curing an obstinate malarial fever which had resisted the action of quinine.

Gentlemen, in dealing with malaria we ought always to hold popular experience in high esteem, for we owe much to it. We owe to it the fact that we have been liberated from the paludal idea, and, furthermore, that we have learned it is often better, instead of trying to prevent the importation, for the most part imaginary, of malaria from distant marshes, to suppress its production in the soil under our feet or in that immediately surrounding us. We owe to it the knowledge, which we now have, that malaria rises up into the atmosphere only to a limited height, so that by placing ourselves a little above this limit, in order to eliminate the possibility of the malaria being carried up to us by oblique atmospheric currents, we are enabled to breathe an air which does not contain this ferment, or which contains it only in insignificant amounts; thus one may even sleep in the open air during the night in very unhealthy districts without running any risks. The knowledge of this fact has led some peoples of Greece, and the inhabitants of the Pontine Marshes, to sleep in the open air on platforms raised on poles four or five metres (twelve to fifteen feet) in height. Some people in the Roman Campagna have built houses for themselves on top of the ancient tombs, the walls of which are perpendicular; the American Indians fasten their hammocks as high up as possible to the trees of the malarious forests; and very recently the engineers of the Panama Railroad had little wooden huts built in the trees, in order to procure safety against the terrible outbreak of malaria which occurred during the construction of that iron way. We owe, finally, to this popular experience the discovery of the specific action of quinine, and the consequent preservation of thousands and thousands of human lives. Why should we reject *a priori* and without investigation other useful data which it may yet present to our consideration? If we wish to make progress in this question of rendering malarious countries healthy, we must always hold before our eyes a double object: to find a means of prophylaxis which may be accessible to everybody; and, at the same time, to find a means, equally within everybody's reach, to overcome chronic malarial poisoning and its evil consequences. Science is still too far behind to permit us to hope that we shall soon succeed in discovering this second means by purely scientific researches. We ought, therefore, to gather together with great care all the facts which point to the possibility of a solution of this problem, and if the measures to which these facts point seem to be incapable of doing harm, we ought to try them boldly, and not be restrained by a false idea of the dignity of science. The social importance of the problem is too great to allow of its solution being retarded by the fear that scientific men may be accused of having been outrun by the ignorant. True science has none of these puerile susceptibilities; on the contrary, it deems it an honor to be able to seize all the observations of fact, whoever may have been their first recorder, to put them to the crucial test of methodical experiment, and to convert them into a new stepping-stone on the march of human progress.—*Medical Record.*

THE MORAL BEARINGS OF ARTIFICIAL IMPREGNATION.—The French journals have been commenting freely recently on a decision rendered by the Tribunal of Bordeaux in regard to a case of artificial impregnation. A physician had employed this device with the consent of a childless couple, but unsuccessfully. Not being paid, he brought suit for the amount of his fee, and detailed in court the steps of the treatment. This evidence the Court held to be in contravention of the requirements of professional secrecy, and at the same time went a step further and pronounced against the performance of artificial fecundation, as being repugnant to natural law, and capable in cases of abuse of causing a real social danger. On the former point, the violation of professional confidence, the general opinion seemed to support the decision (which was confirmed on appeal by the Tribunal of the Seine), but on the latter point the Society of Legal Medicine appointed a committee to prepare a report. This report was presented by Dr. Leblonde, and while condemning the attempts of irregular practitioners to attract sterile women by means of advertisements of an operation for their relief, it indorses the operation when performed by an honorable physician, who resorts to it only under well-determined conditions, and with discretion, as a perfectly-acceptable device, which, instead of creating a social danger, may conduce to the extension of the family without in the least offending modesty.

Reviewing the conditions essential to impregnation, the report says that when the two necessary elements are both existent, and of normal quality, a mechanical obstacle may interfere with their contact, due to malformations of the male or female organs of generation, such as hypospadias, uterine deviations, atresia cervicis, etc., and that in such cases artificial impregnation is equally legitimate with other surgical measures for the overcoming of the obstacle. For this operation he quotes as authority Courty, Pajot, De Sinéty, Lutaud, Eustache, Marion Sims, and T. Gaillard Thomas. The method of Pajot, in the opinion of the reporter, is preferable, on the grounds of simplicity and decency. Of the success of the manœuvre nothing is said in the report, but the implication is made that the accomplishment of the desired result is an easier matter than we are inclined to think has been the experience of American gynæcologists.

The conclusion of the report was as follows: "So far from condemning artificial fecundation, as does the Tribunal of Bordeaux, we are disposed to encourage it as tending to perpetuate the species and furnishing to the family joys which it could not otherwise experience. However, we are of opinion that the operation ought not to be attempted except at the express request of the persons interested, and after assurance of the quality of the seminal fluid furnished by the husband."

To this the society added, by unanimous vote, this amendment: "An honorable physician ought not to take the initiative in proposing the operation of artificial impregnation, but neither ought he to refuse to practice it at the request of the interested persons."

THORACENTESIS: THREE GALLONS OF PUS REMOVED AT ONE SITTING. By W. S. HOY, M.D., Point Pleasant, W. Va.

I take great pleasure in reporting very briefly a most singular case that came under my care, and, so far in my professional experience, I have never met with one so difficult of diagnosis or presenting the strange symptoms, nor even an operation of this magnitude.

The patient, Mr. I. Curry, aged twenty years, mechanic and farmer, came from the West, was sent here to see relatives, with expectancy of dying from consumption. I was first called to see patient June 5, 1884, and found him suffering with a most troublesome cough, great prostration, dyspnœa, with frequent asthmatic attacks, respiratory efforts labored, breathing partly abdominal, slight rectal hæmorrhages, countenance cadaverous, eyes at times prominent, nostrils greatly dilated; the sterno-cleido-mastoid muscles projected in their inspiratory efforts, shoulders elevated and drawn forward, great bulging of the infra-clavicular and mammary regions ("cask-shaped"); the whole chest moved vertically down and up with each respiratory effort. There was a noticeable sinking in of the soft parts above the left lung and at a point near the sternum the upper intercostal spaces, particularly on the left side, were slightly widened. The heart I found to be far to the right side; in fact, the impulse was distinctly felt near the right nipple, although with feeble sound. There was a most constant pain low down in the left lung, which last symptom was never absent.

These are my notes of this case, and in truth I must confess I came to the conclusion at the bedside of my patient that I was about to deal with a case of emphysema, but why this constant pain low down in the lung, and that certain strange symptoms should so frequently intervene, I could not for the life of me understand. In one or two days this emphysematous condition completely disappeared, but that pain, low down in the left lung, grew more severe; "heroic" doses of morphia would not give any relief. The patient continued to grow worse from day to day, the breathing became more and more interrupted, and the heart's action was greatly disturbed. In fact, on the morning of the 15th of June, ten days after having made the above notes, I was summoned to come to the bedside of my patient at once, as he was dying. As soon as my carriage could be ordered, I proceeded to my office to get my cases of surgical instruments, for on the previous night I had told the family I feared an abscess in the lung was certainly the cause of so much pain.

On my arrival at the residence of Mr. Curry, I found him rapidly sinking. In fact, death was expected before two hours. There was that labored breathing, cold hands, feet and knees, with a cold, clammy perspiration, and eyes set. I spoke to my patient, but he could make me no reply. I then informed the family that as death was certain within a very short time I would like to satisfy myself before he died whether or not the lung did not contain pus to an enormous degree, and that perhaps an operation might do some good. They very kindly and readily consented, and, as I had no time to lose in sending for consultation, and the patient was too near death to require an anæsthetic, I began a novel surgical operation. I cut down to the ribs on the left side, then introduced a long curved trocar up the side of the ribs until I came to the sixth rib, when I thrust the trocar and canula into the cavity of the lung. At first there was a rapid escape of air, but by a gentle pressure of the instrument it entered still deeper, until, all at once, out gushed the matter. I had expected to find perhaps a pint, but imagine my great surprise when, after the discharge began ceasing, three gallons of the most offensive pus I ever saw had escaped from the out into the lung cavity. I began rapidly to stimulate my patient, and as the pus was escaping I could distinctly see the heart's impulse changing its position, until at last it could be seen and felt in its natural position.

After the operation had been performed, but the matter still escaping, I came in my carriage and requested my former partner, Dr. L. F. Campbell, to visit the case with me. On our return we found the patient rallying, and the Doctor in his cool but deliberate reasoning felt, as I did myself, that the boy could not certainly pull through, but day after day, since 15th of June, he has continued to grow better, and is now able to be taken out in his carriage, with great hopes of a speedy recovery.

I have made no attempt to discuss or argue this case. I merely give the Profession the plain facts and my notes of the operation. Whether I am the first to perform successfully this operation, or if this is the greatest quantity of pus ever drawn from the lungs, I cannot tell.

[NOTE.—Why exploratory puncture was not early made is incomprehensible. The entire removal of the pus at one sitting, so contrary to rule, seems not to have been attended with injurious results. Death is unusual in such cases when the pus is withdrawn in time. So far as is known, this is "the champion case" in regard to the quantity of pus at once removed; but this is due chiefly to the fact that, in such cases, the pus is removed at several sittings.—E. S. G.]

A FŒTUS WHICH REMAINED FIFTY-FIVE YEARS IN THE BODY OF ITS MOTHER.—M. Suppez, in a communication to the Academy of Sciences (*La France Médicale*), made some interesting remarks relative to the prolonged retention of fœtus. He referred to such remarkable instances as that of Toulouse, 26 years; that of Sens, 28 years; that of Pont-à-Mousson, 30 years; that of Joigny, 31 years; that of Seinzel, 47 years; and finally, that of Quimperlé, 55 years, the specimen of which he presented. He gave two theories to account for this remarkable preservation: the old one of petrifaction—the fœtus so preserved resembling fossils. The immediate principles of their bodies being replaced molecule by molecule by a gypsum, a silicious or calcareous substance, without affecting their form or volume. Bellement affirmed that the fœtus of Pont-à-Mousson was petrified. Bartholin, who saw the fœtus of Sens in the cabinet of curiosities of Frederick III., King of Denmark, affirmed that it was as hard as a stone. The second theory was that of progressive desiccation. Neither the fœtus of Seingel, of Joigny, nor of Quimperlé were petrified, and the petrifaction of those cited remains a contestable statement. The fœtus of Quimperlé was not desiccated, and so a third theory must be broached to explain not only why a desiccated fœtus should be preserved for so long a time, but also why it should be preserved when not desiccated.

INCISION AND DRAINAGE IN PURULENT PERICARDITIS.—With regard to operative surgical interference in pyo-pericardium, most authorities agree in considering it a delicate and hazardous operation, to be undertaken as a last resort, and only by means of the aspirator or a fine trocar and canula. This treatment by the use of an exploring trocar was recommended by Ramberger and Friedriech, with the subsequent injection of chlorine water or iodine, or irrigation by detergent antiseptic solutions, and is referred to also by Fothergill, who regarded it as a forlorn hope, but thought it capable of yielding relief. The practice approved by F. T. Roberts is that of removal of the purulent collection by the aspirator; but he gives this recommendation with the warning that it should not be rashly practised. Bristowe, who approves of surgical interference in pericardial suppuration, gives the details of the operation; the most eligible spot for puncture he considers to be one towards the inner extremity of the fourth or fifth interspace close to the sternum, and suggests that the tissues be divided with the scalpel, one by one, until the parietal layer of the pericardium is reached, and then to puncture carefully with a fine trocar and canula; believing it advisable also to wash out the cavity, he uses a weak solution of chlorinated soda or potassium permanganate. The preliminary use of a fine aspirating needle for diagnostic purposes is suggested. Dr. Austin Flint, Sr., says that in suppurative pericarditis aspiration is always indicated, but he also states that if after repeated aspirations pus continues to reaccumulate, it is very evident that a permanent opening into the pericardial cavity, with injections, affords the only hope of effecting a cure. Dr. Samuel West, at a recent session of the Pathological Society of London, reported a case of purulent pericarditis treated by free incision in a boy fourteen years of age; twenty-four ounces of pus were evacuated (*Medical Times and Gazette*, December 8, 1883). This makes the third case in which the pericardium has been laid freely open for purulent pericarditis. Prof. Rosenstein reported the first case of a boy whose pericardium had been twice tapped, who recovered, in spite of a secondary attack of left-sided pleuritis. The second case had been under the care of Dr. Samuel West also; it was an idiopathic purulent pericarditis, in which the same treatment was followed by complete recovery. In the third case death occurred from other causes; the post-mortem showed a large abscess of the thigh; but the cavity of the pericardium had been nearly obliterated in the short space of two weeks. He expressed the opinion, in presenting this specimen for examination, that opening the pericardium is not a more hazardous proceeding than opening the pleura or the peritoneal cavity, if done with the same precautions.—*Med. Times.*

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SPAYING OF COWS TO IMPROVE THEIR MILK.—It is a well-known fact that the quality of the cow's milk changes with the time lapsing after she has calved. On first calving it is decidedly laxative. Later on it loses this property, and at the end of a year the milk of a farrow cow is very astringent. The milk of the cow with calf also gradually changes with the period of gestation, becoming increasingly watery and having a limey taste. It is evident, therefore, that a child fed on "one cow's milk" must during the course of eighteen months receive quite a variety of food, and that at times during this period this food is not strictly of a physiological nature. In the supply of our cities, moreover, no care, of course, being taken to keep these different varieties separate, the milk must be of a very heterogeneous nature. To obviate the dangers which are associated with this variation in the quality of milk, Mr. Lloyd F. Abott advises (*Boston Medical and Surgical Journal*) the spaying of milch cows. The results which he claims follows this operation are: 1 Increase in the quantity of milk. 2. Constancy of quality. 3. Improved quality of milk. 4. Decrease in cost of keeping the cow. 5. Prolongation of the milk-giving period. 6. Increased readiness of fattening the animal and improved quality of its flesh. He spayed a cow in November, 1880, at which time she was giving ten and a half quarts of milk daily. At the date of writing, February 27, 1884, the cow was still milking and giving nine and a half quarts a day, and of better quality than that given by a cow having her ovaries. Dr. Mecuen, who took part in the discussion of Mr. Abbott's paper, stated that one cow from which the ovaries were removed has produced milk continuously for eleven years, and in this entire period has fallen off only three pints.

BIOGRAPHY.

Dr. Samuel Merrifield Bemiss, of New Orleans, La., died suddenly, November 17th, 1884. He was born October 15th, 1821, in Nelson County, Ky., and was sixty-three years old at the time of his death.

After receiving a preliminary education by his father, Dr. John Bemiss, of Massachusetts, he entered the Medical Department of the University of New York, and graduated in 1846.

He first practised at Bloomfield, Ky., in 1842, and there remained until 1853, when he removed to Louisville, Ky. He served through the Confederate war with distinction, and at its close returned to Louisville, Ky., removing to New Orleans in 1865.

He was a member of the American Medical Association, secretary in 1858, and vice-president in 1868; a member of the local medical societies of Louisville and New Orleans, and corresponding member of the Boston Gynæcological Society.

He was Professor of Clinical Medicine in the Kentucky School of Medicine, of Louisville, Ky., in 1858; of Hygiene and Medical Jurisprudence in 1859–60; Materia-Medica and Therapeutics in 1861. In 1865 he was made Professor of Physiology and Pathology in the University of Louisville, and in 1866 Professor of Theory and Practice of Medicine in the Medical Department of the University of Louisiana, at New Orleans, La.; which last position he filled to the day of his death.

Dr. Bemiss was once a prolific writer. His best papers were one on "Consanguineous Marriages," a paper showing research and ability, but faulty in its premises and deductions; one on "Croup," and a number of others minor in character, contributed to the *New Orleans Medical and Surgical Journal*, of which he was for many years the editor.

He was once State Registrar of Kentucky, a member of the Louisiana State Board of Health, and a member of the Naitonal Board of Health in 1878.

He was married October 16th, 1849, to M. Frances, daughter of Eli Lockert, of Tennessee.

In recent years Dr. Bemiss was but little before the Public, but was devoted to the official and private discharge of his professional duties. He was an acceptable teacher, a good writer, and had a large circle of personal friends.

The cause of his sudden death was not known to the writer when this brief biographical sketch was prepared (November 18th). The material facts, however, of a long and useful life are herein carefully recorded.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this ; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

AMERICAN GYNÆCOLOGICAL SOCIETY.

The ninth annual meeting of the American Gynæcological Society was held in the City of Chicago, Illinois, at the Palmer House, on Tuesday, Wednesday and Thursday, September 30, and October 1 and 2. Dr. Albert H. Smith, President of the Society, and Dr. William H. Byford, Vice-President, occupied the chair. The weather was favorable, and the sessions were well attended. The following-named members of the Society answered the roll-call: William H. Baker, M.D., Boston ; Bernard Browne, M.D., Baltimore ; William H. Byford, M.D., Chicago ; Alexander Dunlap, M.D., Springfield ; George J. Engelmann, M.D., St. Louis ; Frank P. Foster, M.D., New York ; William T. Howard, M.D., Baltimore ; A. Reeves Jackson, M.D., Chicago ; E. W. Jenks, M.D., Detroit ; Joseph Taber Johnson, M.D., Washington ; Richard B. Maury, M.D., Memphis ; Paul F. Mundé, M.D., New York ; C. D. Palmer, M.D., Cincinnati ; Thad. S. Reamy, M.D., Cincinnati ; John C. Reeve, M.D., Dayton ; William L. Richardson, M.D., Boston ; Edward Warren Sawyer, M.D., Chicago ; John Scott, M.D., San Francisco ; A. H. Smith, M.D., Philadelphia ; T. Gaillard Thomas, M.D., New York ; Ely Van de Warker, M.D., Syracuse ; H. P. C. Wilson, M.D., Baltimore.

At various times during the meeting the following-named gentlemen were invited by vote to take part in the proceedings, and were made members by invitation : Dr. E. C. Dudley, Dr. W. E. Clarke, Dr. T. P. Seeley, Dr. N. S. Davis, Dr. Liston H. Montgomery, Dr. Ralph E. Starkweather, Dr. A. H. Burr, and Dr. George H. Randell, all of Chicago ; Dr. P. McClue, of Dubuque, Iowa ; Dr. Henry G. Dearborn, of Nashua, New Hampshire ; Dr. J. H. Carstens, of Detroit ; Dr. T. B. Harvey, of Indianapolis ; Dr. Fritz Netzler, of Stockholm, Sweden ; Dr. Frank Woodbury, of Philadelphia ; Dr. Wesley M. Carpenter, of New York ; Dr. W. H. Myers, of Fort Wayne, Indiana ; Dr. J. H. Rauch, of Springfield, Illinois ; Dr. J. K. Bartlett and Dr. William Fox, of Milwaukee ; and Dr. T. A. Roger, of Montreal.

An address of welcome was delivered by Dr. William H. Byford, of Chicago.

THE PRESIDENT'S ADDRESS.

Dr. Albert H. Smith, of Philadelphia, on Thursday morning, delivered the President's annual address, taking for his theme

THE PRESENT ASPECT OF THE PUERPERAL DISEASES.

After referring briefly to the benefits conferred by this society upon the general field of medicine, not only by its actual work accomplished, as shown by its published transactions, but also by the deeply-felt influence exerted upon the Profession and upon the specialists in its several included lines of work, he passed to a consideration of the advanced condition of gynæcology, and to the comprehensive character of its labors, contributing, as it does, experimental knowledge, manipulative skill and diagnostic accuracy, which are utilized in other departments of the art of medicine. Surgery especially is indebted to the labors of gynæcologists for extending by new operations its field of usefulness, for many ingenious instruments, and for the introduction of new methods of treatment which have added greatly to the means of the successful treatment of disease and injury. In abdominal surgery, the gynæcologist has had, from the beginning of its history, absolute control of the field, so far as the mass of work, the attainment of success and the teachings through the medium of published results are concerned. Beginning with the surgery of the reproductive organs of woman at the pelvic brim, he has gradually been put in charge of all intra-abdominal diseases requiring surgical interference, without regard to sex or organ, and the operator who has established a reputation in ovariotomies and hysterectomies is now sought out for man, woman or child upon whom an abdominal section offers the least hope of relief. Cases suggesting nephrectomy, nephrotomy, carcinomatous obstructions, invaginations, hydatids of the liver, cholecystotomy, all seek relief from the gynæcologist rather than the general surgeon. He himself had seen a man about to be discharged from the Woman's Hospital, Birmingham, having been successively operated upon by Mr. Lawson Tait for biliary obstruction. Where, indeed, he asked, in the whole realm of general surgery can a claim be presented of statistics showing the barest approach to the actual life-saving operations or operation for restoration to usefulness of the maimed and helpless as in the little domain of gynæcology?

The high standing of gynæcology and its services in the past invest the laborers in this department with special responsibility. He inquired whether or not the gynæcologists of America are sustaining their reputation by original work, by a high standard of literature, by maintaining an elevated tone in their department of medicine. He particularly urged upon the members of the Gynæcological Society attention to these important matters. He had been humiliated by the remark made last year by some transatlantic brethren, that a lowering of moral tone was observable in this country in the press, and in the amphitheatre and almost entirely in the productions of gynæcologists, writers and teachers. "We find in our best-conducted journals articles devoted to subjects connected with the sexual relations, entering into minutiæ upon matters of no scientific value, and without special interest in themselves, and rendered valueless, at any rate, by the character of the media of information through which these asserted facts are derived—articles which can have no effect but to minister to a prurient and depraved taste, from which the members of our noble profession should be absolutely free. We find also articles coming from the pens of specialists in obstetrics and gynæcology attempting professedly to be moral homilies upon the family relation, based mainly upon the most exceptional extremes of married life, often the product of a morbid imagination in the writer, and being in themselves not only devoid of scientific learning, but full of gross indecencies vulgarly told, and utterly unfit for the perusal of any class of readers."

Regarding this as one of the evidences of failure in earnestness for fair, honest work, he begged the Fellows of the society to use all their influence to stop the flow of this foul current, which lowers the standard of purity of thought and befouls the sacred profession of medicine. There can be no fact in true science which cannot be fully developed by a man of pure mind without a shock to the most delicate: true science is embarrassed, not aided, by anything coarse or indecent.

The main subject of the address being the zymotic diseases, the speaker referred to the historical discussion which had taken place last year between Drs. Thomas and Barker, at the New York Academy of Medicine, upon "Puerperal Fever," and said that these two representative men might be considered as the exponents of two hypotheses as to the etiology of the disease, the one holding to "absorption" and the other to "essentiality," and, of course, advocating different methods of treatment based upon these views. In order to discuss the subject intelligently, he formulated the following definition of puerperal fever:

Puerperal fever is "a febrile condition occurring in a woman from two to four days after the termination of pregnancy, either at full term or prematurely, characterized by typhous symptoms, high temperature and frequent pulse, the rapid formation of local centres of inflammation, suppuration and gangrene, metastatic abscesses, emboli, a violently phlogogenous condition of the blood, and, unless arrested, running on rapidly to disorganization and death." He believed that this definition would be accepted as based upon Dr. Barker's clinical reports of his cases, and yet meeting the demands of his most decided opponents. He then proceeded to consider the actual condition of the woman after delivery, which, if physiological, still is one which is easily converted into a pathological state, from the results of traumatism combined with the hyperinosis of the blood and its tendency to determination to the pelvis.

After a review of the doctrine of the essentialists, he declared himself unable to accept the distinctions so carefully drawn by Dr. Barker in his work between the clinical cases of the disease, but saw in Dr. Barker's teachings an argument against crowding and hospitalism, and in favor of prophylactic measures.

Braxton Hicks attributes the puerperal fever poisoning either to some modification of the scarlatinal or other exanthematous virus through the lungs, and its development after delivery, and, more recently, Dr. Kirkhead, of Galway, has advanced the idea of the interchangeability of all zymotic diseases into puerperal fever, which, after absorption, instead of reproducing themselves, appear with the characters of puerperal fever. As he could not conceive of such a change of type, he passed it without discussion.

He then took up the theories of the "absorptionists," (1) according to Semmelweiss (1847), who regards puerperal fever as a surgical fever, due to traumatism and septic purulent infection, or (2) according to Pasteur (1872), who attributes it to specific micro-organisms: in the words of Paul Bar, "No microbes, no puerperal infection." After a thorough consideration and comparison of these two schools of "absorptionists," a review of the phenomena presented by typical cases of the disease, and its pathological anatomy, he expressed his conviction that the teachings of Semmelweiss were more nearly conformable to the facts than those involving the specific germ, but still, in his own language, expressed a willingness, "when any one by repeated experiment proves the exact nature of the *causa morbi* present in every case, and never found except under conditions of similar character, then I will accept the *corpus delicti*, even if it be Pasteur's diplococcus and *microbes en chapelet*, and honor him the more for his pertinacity in maintaining his ground." In the same position as himself stand our principal English and American teachers—Playfair, Leishman, Simpson, Goodell, Howard, Chadwick, Engelmann, and, less positively, Dr. Thomas and Dr. Barnes.

He then proceeded to an exposition of the recent teachings of the specific-germ theorists, and concluded that their claims had not yet been substantiated by actual demonstration. Criticising the statement of Pasteur, that a germ cannot enter a healthy body, the blood is "firmly closed" against it, he asked, very pertinently, how can it then be a pre-existing cause of disease in that body? and declared that the woman is already infected who gets microbes into her circulation. That microbes are found in the lochia of every parturient woman no competent observer will deny, but he claimed that "every form that is found in the blood in the most virulent cases is found in the vagina of a healthy woman who remains healthy." He did not, however, wish to be understood as considering these microbes as harmless; they may be carriers of infection, and they may obstruct the vascular spaces mechanically.

He protested, however, against confining our attention to the microscopic examinations of the lochial discharges, when they should be given to the general condition of the patient. As to treatment, he advocated the methods endorsed by experience, rather than the new methods based upon antiseptic theories. He avoids overcrowding, and insists upon strict cleanliness and the use of vaginal douches of carbolized water, or, preferably, good fresh Labarraque's solution, or of hot water, 115° F., with mercuric bichloride 1 to 1,000. He had no fear of intra-uterine injections, and always used them where there are any clots in the uterus or there is undue patulousness of the os uteri. There should be no air in the syringe to pass into the viens, and if there is a proper provision for the return of the fluid none of it will penetrate the oviducts. He has never seen any alarming symptoms after its use, and, on the contrary, praises it highly for its antiseptic effects and recommends it to his classes.

He also exhibited several glass tubes for intra-uterine irrigation. Each tube was about fifteen inches in length, closed at one end, the calibre being about two-thirds of an inch. The rounded end of the tube was perforated by a number of holes for the escape of the fluid from the uterine cavity, which was to be injected through a soft-rubber catheter passing along the interior of the tube, and through a terminal aperture. The glass tube could be made perfectly aseptic, while the rubber tube should be renewed each time it is used. He had employed such tubes, extemporaneously made, in his practice with satisfaction.

SCIENTIFIC PAPERS AND DISCUSSIONS.

Dr. John C. Reeve, of Dayton, Ohio, read the first paper presented before the Society at the meeting on Tuesday morning, entitled

MOOT POINTS IN REGARD TO INVERSION OF THE UTERUS.

The progress of our knowledge with regard to inversion of the uterus, he said, had been very slow, chiefly, it was believed, on account of the rarity of its occurrence. Its infrequency may be judged from the fact that West did not meet with a single case in a total of one hundred and forty thousand labors; moreover, they happen mostly in the hands of midwives and unskilled observers, or of young practitioners, and under circumstances not favorable to careful observation. This also constitutes the stronger reason why their conditions have not been better studied. The accident was known to and described by the ancients. With regard to the etiology of inversion, some progress has recently been made, and it is now better understood than formerly. It was the custom to attribute the condition always to ignorance, and unskilled manipulations of the midwife in delivering the placenta; now it is known that it may be due to muscular action of the uterus, without any aid on the part of the accoucheur whatever. Can inversion of the uterus occur entirely independently of pregnancy or of polypus in the nulliparous organ? It is generally supposed to be due to some change in the wall or the contents of the uterus. Pregnancy and polypus undoubtedly favor its development; but the question is, whether or not there are other conditions which may also be the cause. Hydrometra has been assigned as a predisposing cause by Courty, and one case apparently due to hydatids has been reported. It is admitted that with a healthy condition of the uterus this accident is impossible. Its occurrence independently of pregnancy is also accepted by Courty, Madame Boivin, and other distinguished authorities; by others, however, the inversion of the nulliparous uterus has been doubted, and it is denied by Matthews Duncan, West, and others. The chief objection of Matthews Duncan is that the wall of the uterus is too thick and muscular in virgins,—that it cannot be depressed or dimpled so as to admit of inversion. But this really begs the question, because it applies to the normal condition only; and the possibility of its occurrence, on the contrary, can be proved from the writings of Dr. Duncan himself. He has described changes, which he has frequently encountered in the virgin uterus, where there has occurred a thinning of the walls as a result of pathological conditions where the walls were very much reduced. This condition—abnormal, it is true—is certainly favorable to the development of inversion, and it is not unfrequently found after operations for the removal of intra-uterine growths. He quoted three cases in support of this view. The first was reported by Baudelocque in 1790, the patient being fifteen years of age, which established the occurrence of inversion of the nulliparous organ. Case 2 was reported by Beyer, in a woman aged forty-four years, and the third case was published recently by T. Gaillard Thomas. This case occurred in the practice of the late Dr. Willard Parker. The woman had had several children, and was supposed to have polypus; but upon removal of the tumor it was found to be the inverted uterus. The patient recovered.

Thus there are fair arguments in favor of inversion occurring in the absence of pregnancy and polypus, due to abnormal conditions of the nulliparous uterus.

The second question he propounded was with regard to the starting-point of the inversion: does it always begin at the fundus? This appears to be the generally-accepted view; but may it not occur in a reverse way, from the cervix being relaxed and open and the organ gradually everting? Dr. Thomas claims that this has not been proved, and it has been denied at a meeting of this society by Dr. Taylor. A case was quoted from Klob, but upon referring to the original, it seems that Klob referred to Tyler Smith.

He had not been able to find it in the published writings of Tyler Smith, but Dr. John H. Tate, of Ohio, who was a student and great admirer of Tyler Smith, had referred to it in a paper on this subject, and probably learned it from him. The process is very much like that which occurs in prolapse of the bowel—a hollow organ rolling outward through its inferior outlet owing to pressure from above.

Dr. Tate, in his paper, communicated the notes of three cases which did not fit into any of the prevailing doctrines whatever. A case has also recently been met with by Dr. Araminta V. Scott, of Philadelphia, and reported by her, so that there seems to be sufficient evidence to support the proposition that inversion may begin at the cervix.

The third query he propounded was, does puerperal inversion of the uterus occur except at the time of delivery or immediately afterwards? This question is an important one, because it affects the responsibility of the accoucheur. Suppose a woman has been attended through the usual course and has been dismissed as well, and some few days afterwards, while sitting up, perhaps straining at stool, she feels something give way, and an examination reveals an inverted uterus. The question is, did this begin at the time of labor, and was it overlooked by the attendant, or was it an after-occurrence? When inversion, partial or complete, occurs at the time of labor, the usual symptoms of inversion, hæmorrhage and nervous shock, should be present to direct attention to the accident; and repeated hæmorrhages within the first few days after confinement should suggest this possibility to a young physician, who is to blame if he neglect a vaginal examination, when the condition would at once be recognized. He recalled a case occurring twenty-five years ago in his own practice. Mrs. M. complained of a pain in her side during her labor, which was rather a difficult one. After delivery, the uterus could be felt, as usual, above the pubes. On the fourth day she seemed to be doing well, on the tenth she was discharged. On the eighteenth day he was sent for on account of her having had some fresh hæmorrhages; he found an inversion of the uterus, which he reduced three months after delivery. He regarded this as a case in which the inversion did not occur at the time of labor, but some time afterwards. The next case was reported by Dr. Delamater, from the practice of Dr. Sayles. It was a second labor. Apparently nothing unusual occurred, as the doctor was only called to remove the placenta, after doing which there was pretty free hæmorrhage, which, as she had had hæmorrhages before, did not excite apprehension. The uterus was in good position. For several days a catheter was used, but otherwise everything appeared to be normal until the tenth day, when the patient experienced an irresistible tendency to bear down, and, as the result, a tumor protruded from the vagina, which was recognized as the inverted uterus, and which was afterwards successfully reduced. In Case 3 it was a twin labor; the patient was apparently well until the eighth day. On the next day she had a tumor like the preceding one, which was found to be an inverted uterus. Case 4, having been doing well, on the eighth day got out of bed to evacuate the bowels. A tumor protruded from the vagina, which was recognized as the uterus nine months afterwards, and successfully reduced. In Case 5 the inversion occurred on the fourth day; in Case 6, with the first labor inversion occurred, and again in the second and third labors; the uterus was in good position on the sixth day, but afterwards inversion occurred, which was subsequently reduced. Case 7 also had an inversion, occurring on the ninth day, the patient having been doing well up to this time. This was also successfully reduced.

With regard to the predisposing causes of inversion, it is observed that relaxation of the uterus after delivery is very common, and inversion under such circumstances is not only possible, but probable.

May it occur without giving rise to symptoms that would indicate that something was wrong? In most cases the shock, paleness, profuse hæmorrhages, indicate to the friends that everything is not right, and in seventy-eight out of one hundred and twenty-eight cases a fatal termination occurred in a few hours. Two cases were quoted in which the patient seemed comfortable and there was no excessive bleeding. In one the uterus and its contents were forced out between the labia by one severe pain; the placenta was peeled off, the uterus restored to its position, ergot given to retain it in place, and the patient seemed to suffer no inconvenience.

The last difficulty to consider is one of diagnosis. Sessile polypi and inverted uterus might be confounded; the history of the two conditions is of no aid whatever in diagnosticating them, as they are so nearly alike. The only safe rule is to bear in mind that such a tumor may be an inverted uterus, and to use appropriate treatment after a careful examination.

DISCUSSION.

Dr. Scott, of California, said that, in a long experience, he had had only two cases of inversion of the uterus. One occurred during the early years of practice, coming on during labor in a young woman; it was reduced very speedily by manipulation. The second case occurred only last year. She was brought to him from Sacramento to San Francisco, having been under the care of a homœopathic medical man. She reported that the child was not unusually large, and the labor was an ordinary one, but the doctor seemed in a great hurry to get away the placenta, which came away suddenly, with a gush of blood; during the next three weeks there were repeated hæmorrhages. Her medical attendant recognized the case as one of inversion of the uterus, and tried, though unsuccessfully, to reduce it, and another irregular made the same diagnosis, but did not attempt its reduction.

The remarkable feature in the case is that this patient had for the next seven months inversion of the uterus without hæmorrhages, although she had pain in the back and most profuse leucorrhœa. In the eighth month she weaned her baby, and the hæmorrhages immediately began again. The speaker examined her and restored the inversion in about twenty minutes by the usual method, by manipulation, first indenting one cornua, then the other, and gradually pressing the fundus through the cervix. In the process he could feel the muscular fibres yielding; some of them were torn. After the uterus had been restored, he examined it from day to day, and found that the os remained patulous; there was no tendency to contraction; the patient felt perfectly well. Iodine was applied for three weeks without much effect; then the menstrual period came on, followed by hæmorrhage, continuing for ten days. An examination showed the uterus in place, but the cervix dilated as before. Applications were again made, but after the next period it was found that nothing had been gained. He then retrenched the calibre of the cervical canal by putting in some silver-wire sutures, which set up a cellulitis. The patient afterwards recovered, became pregnant, was delivered of a child, and he was called upon to operate for a rupture of the perinæum. He reported it in order to call attention to the persistent patulous condition of the cervix.

Dr. William H. Byford said that the paper merits more notice than it could receive in a short discussion. The main points for discussion are the method of inversion of the uterus, its causes, and the times when it is likely to occur. With this accident he had not had much experience personally, although in consultation he had seen nine or ten cases, two or three being acute. Some years ago he had published a case, which occurred in 1870 in his own practice, of a very healthy young Jewish lady of this city, at her second confinement. The labor was not a marked one in any respect, and there were no untoward symptoms. He followed his usual custom after labor, and examined the uterus through the abdominal walls. He found it in good position, not altered in shape, and certainly not in position. There was no hæmorrhage, and, in fact, no symptoms to indicate anything extraordinary. He could recall no circumstance afterwards during her confinement in bed to excite suspicion. Four or five weeks after her confinement he went to California, and was absent two months. Two or three weeks before his return, this patient had to call in another physician of this city to see her, who, upon examination, found an inverted uterus: there was complete inversion. He was astonished and perplexed to hear of this, and to think that he possibly might have overlooked a complete inversion. Now, it is noteworthy that, from the time of her labor to the time that this physician was called to attend her for a slight hæmorrhage, there had been nothing to point to anything unusual. This patient had been nursing her child, also, until two weeks before the occurrence of this accident. Owing to some sickness on the part of the child, the nursing was interrupted, and the hæmorrhage began. It often is the case that pelvic disorders first make their appearance by symptoms after weaning the child.

In reply to a question, he said that such an occurrence had been the ground of a trial about twenty-five years ago. Dr. Fisher attended a case, and had in consultation with him Drs. Davis, McVicker, and others. The patient subsequently was found to have inversion of the uterus, which the husband attributed to unskilful attendance. Being an irascible man, he pursued Dr. Fisher, and tried to ruin his reputation, on account of his supposed neglect. Dr. Fisher sued him for damages for defamation of character, but did not gain the case. The affair ruined Dr. Fisher in Chicago.

Dr. Browne reported a case which was taken with hæmorrhage on the ninth day after delivery, and inversion was discovered and put in place. In this case there was an ulcerated cervix, and probably the inversion had occurred from below. In cases where the uterus follows the placenta, the inversion is generally recognized at the time. We know how difficult it is to invert the uterus in cases of operation for removal of a sessile polypus; and in similar cases it seemed to him that the true explanation of the inversion is that it occurs from below.

Dr. Dunlap referred to a case of chronic inversion of the uterus which had come under his care, with a history of hæmorrhage after labor, but no abnormality of the uterus was discovered upon repeated examinations until some months afterwards. Then the os was seen to be in a state of dilatation, and through it the uterus slowly descended until the fundus was in the vagina. The point of this case consists in the fact that at first the os was closed, and several months afterwards, with obstinate hæmorrhage, there was found dilatation of the cervix and descent of the fundus. In this case inversion occurred at the fundus, and not at the neck or the os.

Dr. Sawyer had a fatal case of puerperal inversion to report. There had been extreme dilatation of the uterus by dropsy of the amnion. The uterus was flabby, and walls deficient in thickness. The fundus was above the umbilicus, and there was some difficulty experienced in delivering the placenta, although, after evacuation of its contents, the uterus appeared as if it were normal, except that the fundus was a little higher in the abdomen. The husband was asked to place his hand over the uterus while the relator changed some clothing, now a gush of blood was noticed, and a drachm of ergot was given. Upon taking the place of the husband, it was found that the uterus had disappeared. The time in which the dimpling and inversion had occurred was not more than ten minutes altogether. During the efforts at reduction, the organ became hardened, probably from the ergot, so that it was impossible to reduce it; the patient became collapsed, and died in three hours. At the post-mortem, a condition was found which throws some light upon the method of production of inversion. The area of placental attachment was near the right cornua; the uterine wall was large, and much thicker here than elsewhere. There can be no doubt that this portion of the fundus fell in from the force of gravity, and he was prevented from reducing it by the uterus being ergotized, ergot having been given to stop hæmorrhage that was threatening life.

Dr. H. P. C. Wilson said that he had been most interested in the length of time which inversion had occurred after labor. Inversion never occurs at any time after confinement without the physician getting the blame for it. He had seen but one case in his life of acute inversion after labor. It occurred in the hands of a very distinguished practitioner, and was brought to the reporter six months latter. It was reduced without special trouble. It would seem that everything which produces relaxation of the uterus or favors subinvolution, or anything which prevents the uterus from resuming its normal condition, may produce inversion at any time, as long as this condition remains, whether one week or ten after labor. Anything which causes relaxation of the muscular walls under these circumstances, such as over-exertion, may cause inversion.

Dr. Howard had seen only three cases. He was called to a fourth, but had not been able to attend it. In the first case, the midwife had delivered the placenta by pulling upon the cord, producing complete inversion of the uterus. The temperature of the woman when he saw her shortly afterwards was 103° F., pulse 120. The organ was replaced by manipulation, and the patient did not have a bad symptom afterwards. The second case was a young mulatto woman, who had been exhausted by repeated hæmorrhages and leucorrhœa, due to polypi, which being removed with the écraseur without loss of blood, the uterus was found completely inverted. The attachment of the polypi was seen to be to the fundus by pedicles. The third case was also one of complete inversion, supposed to be a prolapse. She refused operation. The last case was one which he had seen about a year ago. She was sixty years of age, and had complete inversion with a polypus. In consideration of her age, no recommendation was deemed necessary.

In a case where a polypus was attached by a long pedicle to the fundus, he had inverted the uterus by delivering the tumor with the forceps, and immediately restored it again. Now, if the uterus can be inverted by traction and reduced immediately afterwards, it seemed reasonable to him to believe that in a woman who has never borne children the uterus may be inverted by the constant traction of a polypus. In conclusion, he referred to the discussion on this subject before the International Medical Congress held in Philadelphia, in September, 1876, when Dr. Washington L. Atlee handed around a specimen of a portion of an inverted fundus uteri, which he had removed with the écraseur under the idea that it was a polypus.

Dr. H. P. C. Wilson, of Baltimore, read a communication on

FOREIGN BODIES IN THE ABDOMEN AFTER LAPAROTOMY.

The possibility of allowing some of the instruments or a sponge to remain in the peritoneal cavity constitutes one of the great dangers of laparotomy; and this accident occurs more frequently than might be supposed from the records. The foreign body is sometimes discovered during life, sometimes only after death; sometimes it fails to be discovered at all. Unfortunately, most of the fatal cases have not been published, because they would damage the surgeon in the neighborhood in which he lives. Moreover, in a great many cases he is unable to obtain a post-mortem examination, and the diagnosis of septicæmia, peritonitis, etc., is usually considered sufficient, and it is never learned whether or not there may have been a sponge or a pair of forceps at the bottom of it.

Notwithstanding the difficulty of getting statistics of this accident, he had been able to get records of twenty-one cases, of which only five have been published; *i. e.*, more than two-thirds of the cases never come to light. Counting his own case, which he published to-day, there were six published. In five the foreign body was a sponge; in one, a pair of forceps. Four perished; two recovered, after timely removal of the sponge.

In his own case, when the wound was nearly closed, an assistant told him that a sponge was missing, but on counting them over, the nurse said that they were all accounted for. The patient made a good recovery, except that an abscess appeared on the anterior abdominal wall, which pointed and discharged pieces of sponge six months later. The fact that the sponge had been thoroughly cleansed and asepticized probably saved the patient's life. He was entirely unable to account for its presence in the abdomen.

In a case of Lawson Tait's, a bystander, becoming interested in the operation, assisted, and tore a sponge in two, and, without saying anything about it, he left the room before the sponges were counted. The number was correct, but the half sponge left in the abdomen killed the woman. Spencer Wells reports a similar case, in which he was obliged to partially reopen the abdomen twelve hours later; he removed the sponge and the woman did not seem any the worse for it. In another case, Spencer Wells, making some excuse, removed two stitches in order to find a pair of forceps, which were subsequently found rolled up in the mesentery. The patient got entirely well and never found out anything about it. Carl Braun reports a case of a sponge, and Gustav Braun one in which a pair of forceps were allowed to remain.

In order to avoid such dangerous and disagreeable accidents, he urged that the number of sponges should be as limited as possible. The sponges should be selected on account of their strength, as well as their texture; they should not be too small, and should be whole, never cut or torn; they should not be used if old or friable. The instruments should also be large, because small ones might be overlooked. There should not be too many assistants; he would rather have one than three, and rather none at all than five. Both sponges and instruments should be entered upon a written list before the operation, and the surgeon should himself verify the count before closing the abdomen. The operator should do his own sponging during the operation.

DISCUSSION.

Dr. Thomas said that the subject as presented by the lecturer was interesting, and the paper was characterized by frankness and an evident desire to avoid doing injury to patients. He thought, however, that the frequency of the accident had been overestimated. In his own experience of laparotomy, of between four and five hundred cases, there had been only one case that he could recall, and this he desired to mention as an addition to those in the paper, and as an illustration of the unaccountable manner in which this accident may occur. A patient in the Woman's Hospital, New York, suffering with cancer of the spleen and Bright's disease of the kidneys, had a tumor in the left side of the abdomen, and, although the case was a hopeless one, at the request of the patient's friends an exploratory incision was made. During the operation he did not have a sponge in his hand, and his assistant, Dr. Hunter, used only one sponge. The patient was under ether, as at that time he had not yet recognized the danger of giving ether in Bright's disease, which sometimes is followed by complete suppression of urine. It was so in this case; after the operation the patient did not secrete a drop of urine, but succumbed in a few hours. A small piece of sponge was found in the abdominal cavity, which had probably been broken off from the large sponge while it was being used in the peritonæum, and dropped inside.

Referring to the recommendations given in the paper, he said that he thought it impossible for the operator to do his own sponging, especially when there is a great deal of hæmorrhage, or when he has to do some careful dissecting and differentiate the tissues, which would require sponging to keep the field of operation clear. He must, therefore, trust his assistants with the sponges; but he should see that nothing remains in the abdominal cavity. He has only three assistants, uses very few instruments, which are large, and his sponges have pieces of tape (five or six inches long) stitched to them to prevent their being overlooked. One assistant has charge of the instruments, and accounts for them all after the operation; a second assistant administers the anæsthetic; the third assists in the operation directly. The only way to prevent leaving instruments in the cavity is to use as few instruments as possible and let them be of large size. He had great dread of seeing Péan's forceps used, as they are generally allowed to remain temporarily in position, in order to check hæmorrhage, but they might easily get lost. While such accidents do occur occasionally, he would not deny—in fact, he fully agreed with Dr. Wilson—that if all the cases were faithfully reported there would be a great many more than there are.

Dr. A. Reeves Jackson said that having his attention directed to the subject, he had found, upon inquiry, that there had been at least three unpublished cases in Chicago (two of sponges, one of forceps), and the fact discovered only after the death of the patients. He approved the sentiments and recommendations of the paper, which were very nearly his own rules. He thought that the case of Dr. Wilson fully demonstrated the value of antiseptic sponges.

Dr. Dunlap had not had this accident occur, to his knowledge, in any patient of his. He uses very few instruments and does his own sponging. He thought Dr. Thomas's plan a good one. His own preference was for a very large blanket sponge, which he packed in over the intestines to keep them out of the way. He always has his patient in a half-recumbent posture during the operation, so that the fluids may gravitate to the posterior cul-de-sac. He has no dread in making an external incision large enough to permit him to explore the abdominal cavity. Having it open before his eye, it is impossible to leave a sponge in unnoticed. The only danger is from Péan's forceps, and he prefers to apply a ligature at once to letting go of the forceps. He never passes a vessel until the bleeding is stopped, and he does not close the wound until the cavity is perfectly dry. He recommends large incisions, and said that in all his laparotomies he had never failed in obtaining union in three days' time.

Dr. Howard said that he was struck with the manner of counting the sponges in the Good Samaritan Hospital in London. Two women have charge of the sponges—say fifteen in all. After the operation, one woman picks up the sponges one by one and counts them aloud, handing them to the other nurse, who also counts them aloud as she receives them, which prevents any mistake in counting. While in London he learned of a case of a young woman, nineteen years of age, who, after ovariotomy, complained of so much pain that a young surgeon in the hospital opened the wound and removed a sponge, and the patient recovered. Another distinguished operator opened the abdomen of a patient on account of pain, which he feared might be due to a sponge, but he could not find any; this patient died. With regard to Dr. Thomas's remarks about the danger of ether in Bright's disease, he thought that this was also the case with chloroform, and that deaths under such circumstances had been published. He had himself a case of a young colored woman who died of cardiac paralysis after the inhalation of less than thirty minims of chloroform in a Junkin's inhaler; after death the kidneys were found diseased.

Dr. Thomas said that the case was not analogous. He had referred to suppression of urine after the use of ether, which did not occur with the chloroform.

Dr. Engelmann reported a case of laparotomy for fibro-cystic tumor of the ovary, where a sponge was left in the abdomen by a visitor who usurped the place of the regular assistant, and who afterwards corrected the assistant, who reported a sponge missing, by the assertion that it was all right and must have been thrown out with some waste water. As no sponge could be detected in the pelvis, the wound was closed. The patient did well for two days, and then sank, with peculiar symptoms of dementia, or melancholia; she did not complain of pain in the abdomen. At the post-mortem, a small sponge was found lying between the stomach and transverse colon, mainly on the right side. There had been no inflammation around the sponge, which was perfectly pure and clean; there was a slight injection of the small vessels in the immediate neighborhood of the sponge. This case is of interest because the list is so small. It occurred because of the interference of a guest, and the deference due him as a distinguished surgeon prevented a remonstrance, and the manner in which it happened was this: in order to stop rather free bleeding the visitor packed several sponges in succession into the abdomen in order to check it; one of these sponges was left.

Dr. Mundé endorsed the caution with regard to old and friable sponge. His own rule was not to use sponges that have been long kept (antiseptic fluids usually make the sponge brittle), nor would he use one which has been cut or torn. He considered it advisable in the last steps of the operation to have as many sponge-holders as sponges, to use in taking the fluids from Douglas's cul-de-sac.

Dr. Baker had expected to hear discussed in the paper another class of foreign bodies in the abdomen, viz., sutures and ligatures. He had met with several cases in which ligatures, after giving considerable trouble to the patient, had gradually worked their way to the surface.

Dr. Wilson closed the discussion by approving most of the suggestions, and stated that the cases must be more frequent than some supposed, for, since writing his paper, he had learned of seven more cases.

Dr. C. D. Palmer, of Cincinnati, read a paper entitled

ABDOMINAL SECTION: ITS VALUE AND RANGE OF APPLICATION AS A MEANS OF DIAGNOSIS AND TREATMENT.

After referring to the value of diagnosis in medicine, he spoke of its especial importance in pelvic and abdominal disorders in women, and cited instances where circumstances prevented a positive conclusion from being drawn, *i. e.*, some cases of ovarian cyst, effusion in the Fallopian tubes, cancer, and other growths which may be complicated by ascites. Sarcoma of the mesentery is likely to be taken for ovarian cysts. Neither the external character of the tumor, its relation to the intestines, nor functional disturbances of the kidney or other organs can be relied upon to establish the diagnosis. Renal tumors or floating kidney may have the intestines above them, and may be as movable as ovarian growths. Extra-uterine pregnancy also has simulated ovarian tumor. Although there is so much difficulty in diagnosis, it must not be inferred that many mistakes are being made in this department; on the contrary, it is surprising that they are so rare. Ovarian diagnosis is steadily increasing in accuracy. Spencer Wells has said that ovarian diagnosis has reached a degree of perfection as great as any other department of surgery.

Great stress has been laid upon tapping in the diagnosis of abdominal effusions; but, while some insist on its value, others never perform it. Probably the safe ground lies between the two extremes; it may clear up the diagnosis, but, on the other hand, how many promising cases ready for ovariotomy have been spoiled by injudicious tapping! Spencer Wells estimated that tapping increased the mortality after ovariotomy two per cent. It is an operation of no small risk, in his estimation, and should be omitted, for the diagnosis can be made without it by means involving less risk. Schilling says that tapping is a crime. Stone never taps. Lawson Tait insists that it should never be done for diagnosis. He concluded (1) that tapping in the large proportion of cases is unnecessary, and is superfluous for the purpose of diagnosis; (2) that it is attended by such risk and dangers in its remote effect as to limit its use to a minimum. Spencer Wells limits it to the case of parovarian cyst; but the simplicity of the operation is likely to lead us to underrate its danger. The evidence afforded by the chemical, microscopical and physical examination is only presumptive, and not positive.

With regard to opening the abdomen, which is generally regarded as a serious operation, he believed its danger was in proportion to the amount of handling to which the viscera were exposed, and the size of the external wound. After referring to the favorable reports of Spencer Wells, Dr. Byrd, and Dr. C. C. Lee (the last-named of whom had seen five cases in which the operation of laparotomy had been begun, and abandoned after opening the abdomen, all of the five recovering), he said that his own experience had been limited to five cases of exploratory incision where malignant disease was suspected and found. In four cases death occurred in from four to thirty days; the other is still living, sixteen months after operation. In cases of malignant disease with very little vitality, the shock of opening the abdomen very often will prove fatal; but in other cases exploratory section may be practiced with as good results as tapping. He repeated Lawson Tait's warning against turning an exploratory incision into an incomplete operation, for the mortality in abandoned operation is very much greater than in simple section.

In a certain sense every abdominal section is diagnostic, because no one can tell positively, until the abdomen is opened, what the character of the tumor may be or what complications may exist affecting the question of operation. It is no reproach to a surgeon that he suggests an exploratory incision in order to complete his diagnosis; but it should not be resorted to except in cases where a surgical procedure is likely to be called for, and this contingency is to be provided for in case the abdomen is opened. Early interference gives the best results, and is the order of the day. The incision should be at first small, and may be afterwards enlarged according to the necessities of the case: by opening the abdomen the operator learns the character of the growth, whether malignant or not, its site and attachments, and is able to decide the question whether removal is possible, and, if so, whether it will prolong life. As the rule, no operation should be performed in malignant disease.

There are many conditions which can be relieved by the operation in which exploratory incision for diagnosis is not required:

1. For the detection of simple ovarian tumors; but such tumors are not always uncomplicated, and exploratory incision may be of service where it leads to early operation.

2. For the diagnosis of some interstitial and extra-uterine fibroids; but where life is threatened and surgical interference is needed, the section may be made to verify the diagnosis and enable the surgeon to decide between oöphorectomy and hysterectomy.

3. In certain cases of acute and chronic peritonitis, where the patient is threatened with septicæmia. If the abdomen can be opened, cleansed and drained, the patient is in a fair way for recovery.

4. In certain obstructions occurring in the intestinal tract, just how soon and how far it is permissible to interfere surgically in such cases is yet undecided; but laparotomy has more than once been of service in saving life.

5. Some cases of chronic pelvic abscess are susceptible of relief by this means. A very large proportion of these cases result from hæmatocele. Many of these cases recover by spontaneous evacuation through the bowel or bladder. Tapping is the best method of treating such collections; but where the abscess is discharging through several tortuous channels, free opening, cleansing and drainage are advisable.

6. In extra-uterine gestation, laparotomy should be practiced early if the fœtus cannot be destroyed by electricity. When the fœtus is fully developed, it becomes a necessity.

DISCUSSION.

Dr. Engelmann said that the exploratory incision had been too little used in this country for diagnostic purposes. He would not regard it as a means of ordinary diagnosis, as he would bi-manual manipulation; but where the diagnosis is doubtful, exploratory incision will often aid one in getting out of it if the case is not a suitable one for operation. He does not regard it as being as dangerous as tapping. He recalled three cases in which he had performed exploratory incision, all of whom got well. The first was one of uterine cancer, which seemed favorable for hysterectomy; but after opening the abdomen the disease was found in the neighboring structures, and the operation was not performed. A second was of similar character; and in the third the malignant disease seemed generally diffused.

Dr. Mundé said that exploratory incision, not only in suspected ovarian diseases, but in abdominal disorders, had not been as much resorted to as it should have been. At the commencement of the operation the majority of ovariotomists make a large incision, with the expectation of going right on with it, and with the feeling that, having begun the operation, they do not like to back out of it; they go on to finish the operation, even if it also finishes the patient. He agreed with the lecturer that the exploratory incision is rather a safe procedure, and not so dangerous as tapping. He believed that tapping was responsible for twenty-five per cent. of the mortality after ovariotomy, and the risk is greater than from the ovariotomy itself. He has now under treatment a large uterine myoma, for which he proposes, within a month, to make an exploratory incision, and afterwards determine whether to remove the uterine appendages or perform hysterectomy. In a case of pelvic abscess he preferred to aspirate, and, finding pus, to make a free incision in the roof of the vagina, tie any bleeding vessels, pack the cavity, and the patient usually gets well. He only differed from the speaker in calling this an exploratory incision, agreeing with him as to after-treatment.

Dr. Wilson regarded every laparotomy as an exploratory incision: he never knows exactly what he has until he opens the abdomen. It is not so dangerous as tapping. In a case of amniotic dropsy with great abdominal distention, although he was aware of the existence of pregnancy, yet the effusion was so great that he did not know whether it might not be ovarian tumor or ascitic fluid. After deliberating whether to open the abdomen or to put in a trocar, he decided to make an exploratory incision, and found a very large uterus, the walls not being any thicker than an ordinary cyst of the ovary. If a trocar had been used, it would have gone immediately into the uterus. As it was, he closed the wound, dilated the mouth of the uterus, ruptured the membranes, and gave exit to several gallons of fluid, delivered twins, and the woman got well. In closing, he repeated that every laparotomy is necessarily an exploratory incision.

Dr. Maury said he had made two abdominal sections for exploration. The first was supposed to be a multilocular ovarian cyst, and there seemed no doubt about the diagnosis, but the incision showed it to be a tumor of the mesentery. The wound was closed, and the patient recovered and lived for a year afterwards. In the other case, a large myoma filled the entire pelvic cavity. The question of removing the ovaries was considered. Upon opening the abdominal cavity it was found to be impossible to remove the ovaries. The operation was given up, and this patient also recovered.

Dr. Jackson said that the paper had a wider range than the discussion. He would like to hear the experience of the Fellows as to the value of abdominal section for pelvic abscess.

Dr. Dunlap reported a case of a man, a physician, who came under his care, suffering with commencing psoas abscess. An exploratory incision in the median line, below the umbilicus, revealed the abscess, which was opened and washed out. The patient recovered.

Dr. Scott also recalled a case of pelvic abscess, in which the operation was delayed by the refusal of the patient. Finally the abdomen was opened, and it was found that a communication had been formed between the abscess and the large intestine. The result of the operation was very favorable. Obstinate vomiting at once ceased, the condition steadily improved, and the opening in the bowel probably closed, as the patient got entirely well. In another case, drainage by the vagina failed to empty the collection, and abdominal incision was resorted to, and the original cause of the trouble was found to have been a suppurating salpingitis, the cellulitis having been secondary. The patient, before the operation, had been suffering with septicæmia, and died two days later. If the abdominal incision had been made early for diagnostic purposes, the patient might have recovered.

Dr. Palmer closed the discussion by repeating some of the points in his paper. With regard to chronic pelvic abscess he said that simple exploratory incision is a matter of duty on the part of the attendant, especially when the track is long and tortuous, and when it cannot be reached from below. In conclusion, he recommended the more frequent performance of laparotomy, both as a means of diagnosis and for the purpose of opening methods of treatment which otherwise would be impossible. He would not recommend it in marked malignant cases when the vital powers are low.

Dr. Engelmann, by permission, stated that in a case of malignant disease operated upon by him the union was by first intention, and the patient rapidly recovered from it.

Dr. Palmer repeated that in four cases of malignant disease under his care the patients died in from four to thirty days after the operation.

Dr. Paul F. Mundé, of New York, read a paper on

CERVICAL FIBROIDS AS A CAUSE OF DYSTOCIA, AND THEIR REMOVAL BY VAGINAL ENUCLEATION.

The usual site of fibroid growths is in the uterus rather than in the cervix; but they do occur in this situation, and, like other fibroids, they grow rapidly during pregnancy. They may grow so large as to fill the upper portion of the pelvic canal and make delivery extremely difficult; and, when so large, they are apt to be partly corporal and partly cervical. The tumor may descend in front of the head of the fœtus, and may be so contused as to slough off, or its size may be so reduced by hæmorrhage and pressure as to allow it to retire above the brim of the pelvis, and delivery may go on. If the fibroid has a long pedicle, it is easily removed, but the case is more difficult when it is sessile, and it was of this condition that he wished especially to speak. When the sessile fibroid is large, and labor has begun, two plans of treatment are possible: 1, to excise the tumor piecemeal, or, 2, perform Cæsarean section; but the results of this are so bad that the former is preferable. Out of thirty cases, there were twenty-four cases of maternal death, and sixteen of the child. Schroeder showed a mortality of sixteen per cent. The dilatability of the parts at the time of labor is an additional argument in favor of enucleation, and renders the operation more successful than under ordinary circumstances. Dr. Thomas operated upon a woman by Cæsarean section under these circumstances, and the patient died. Afterwards, in speaking of the case, he said that in a similar one he would now try enucleation with the serrated spoon. Where the child is not living or viable, vaginal enucleation would always be preferred. He reported the following case. Mrs. F. F., 38 years of age, married, had her last child a year ago. She had had hæmorrhages before delivery (supposed placenta prævia), and bled for five or six months afterwards, and at intervals ever since. She was brought into the hospital with the curious diagnosis of "elephantiasis ossis uteri," whatever that might be. A large fibroid growth was found filling the upper part of the vagina, and the tumor extended up to the diaphragm. Pregnancy was detected, but the tumor so completely blocked up the pelvis that the finger could not be passed beyond it, or between it and the promontory of the sacrum. He did not interfere much with it, for fear of inducing premature labor, which had reached the sixth month. After checking hæmorrhage with astringents, the question was whether to operate at once or to delay. Two courses were open: first, to wait, controlling the hæmorrhage as much as possible, until labor began, and then to enucleate and deliver, or, if not, to remove the child by Cæsarean section, and finish with Porro's operation, or to perform intra-abdominal enucleation, with abdominal section, by the method of Bryson. In the latter case the chances of the mother would be extremely poor, the mortality being about eighty per cent. Movever, while waiting, the tumor would have time for still further development, and possibly make Cæsarean section absolutely necessary.

The second plan was to wait only a couple of weeks, and then remove the tumor without interfering with the pregnancy, if possible.

A case of Schroeder's, reported by Loman, his assistant, was almost identical with this one. He performed the operation towards the close of pregnancy without interfering with it. The success of this case of Schroeder confirmed the lecturer in his intention to operate at once, since the delay until full term would be extremely hazardous.

The operation was accordingly performed, traction being steadily kept up on the mass by two volsella forceps, bringing it down as it was enucleated by the serrated spoon; finally, as the forceps pulled out, he hooked his fingers in the mass and delivered it. The amount of bleeding was slight, and no hæmorrhages occurred subsequently. Labor came on shortly afterwards, and he removed the fœtus and placenta and packed the wound with iodoform gauze. The patient did not rally well from the ether, but finally revived after artificial respiration and nitrite of amyl inhalations. There was a temporary rise in temperature for two days, but the patient subsequently did well. The wound was cleansed and again packed on the second and third day afternoon, and less frequently afterwards; it was entirely closed at the end of three weeks, and several weeks later only a slight thickening of the posterior lip of the cervix was present. The tumor, which was presented to the Society, measured twenty inches in circumference, and its principal diameters were eight by six by two and a half inches; it weighed fifteen hundred grammes, or about three pounds.

After a reference to cases published by Playfair, Braxton Hicks and Loman, he concluded that this case was the largest growth of the kind yet recorded.

So far as can be judged from the description, the size of the tumor in this case is double that of any of the eight cases collected by Loman, and is approached only by Schroeder's, which was six inches long to eight in this one.

To collect the results of these nine cases (only eight of which were available, since Langenbeck's had not been decided at the time of reporting), we find that the mothers all recovered without difficulty. Of the children, three were premature and not viable; one was extracted dead by version, one was perforated before the tumor was enucleated, one was delivered by the forceps asphyxiated (whether resuscitated or not is not stated, but it probably was, or it would have been reported as dead), and two were born alive after enucleation of the tumor —one by the forceps the other spontaneously. Thus, of five children, which only can be included in this estimate because they only were viable, three were born alive, or could probably have been born alive if the tumor had been enucleated before perforation was thought necessary, and one died during extraction after version, an operation known to be frequently fatal to the child under any circumstances. Thus, all the children of the cases in which the proper treatment of enucleation was adopted, before attempts at delivery were made, were saved. Truly, not a bad showing; but how different from twenty-four dead mothers and sixteen dead children out of thirty Cæsarean sections for the same condition!

That the loose connection of these tumors to their envelop during gestation greatly facilitates their enucleation is obvious, and the softness of the mass, also peculiar to pregnancy, allows tumors of even considerable size to be elongated and attenuated by traction, and thus removed through the pelvic outlet, which in the non-parturient condition would be entirely too bulky for that orifice without mutilation, and fortunate it is that these favorable conditions exist at that time. The dangers to the mother from septic causes through the large raw tumor-cavity did not seem as great as we might expect, since in the case he had reported there was only a temporary rise in temperature. He said, in conclusion, that "it is to be hoped that in future, when a fibroid, no matter how large, is found obstructing delivery, the attempt will always be made to enucleate it, either whole or in part, through the vagina, before endeavoring to drag the child past the tumor with the forceps, or performing craniotomy or version, or, worse than all, sacrificing the mother and possibly the child by Cæsarean section."

In the discussion on this interesting paper, in which Drs. Jenks, Wilson, Byford, Dunlap, Van de Warker and Reamy engaged, the rarity of this complication of labor was dwelt upon, and a general approval of Dr. Mundé's course was expressed.

Dr. T. Gaillard Thomas exhibited a form of apparatus which possessed historical interest. It was a jointed steel girdle, covered with velvet and fastened with a lock. The special feature of the apparatus consisted of a steel perineal band, having apertures opposite the vulvar and anal orifices when in position; these apertures being surrounded by saw-teeth. This apparatus (similar to that exhibited at the Hôtel de Cluny at Paris) was found in several pieces in an old trunk received among a lot of effects from an old French estate by a resident of Long Island, who had presented it to Dr. Thomas, who had had it restored and prepared for exhibition to this Society.

Dr. Thomas then proceeded to read his paper on

A FURTHER REPORT UPON EXTRA-UTERINE PREGNANCY, EMBODYING SIX CASES.

Since reporting twenty-one cases to this Society in 1882, he had seen six more, which he wished to add to the statistics. Most of these cases had been seen in consultation, which would account for the large number in his individual experience. On account of the liability to rupture of the sac towards the fourth month, he advocated early diagnosis and early treatment.

The experiments of Leopold upon artificially-produced extra-uterine fœtation in rabbits and its results he considered as of great interest in this connection. Leopold concluded that rupture of the sac is a common result in extra-uterine pregnancy, and that the dead embryo is usually encapsulated and remains as a foreign body. The inference that recovery in the human race, after similar rupture, may take place, was one that Dr. Thomas fully indorsed. In case of active hæmorrhage, the operation of opening the abdomen and the application of ligatures to the bleeding points was advocated twenty years ago by Dr. Stephen Rogers, of New York, but he had no actual experience in such an emergency. Lawson Tait had reported, in the *British Medical Journal*, five cases operated upon in January, 1883, four of which recovered, one died. His own experience had proved that this treatment was entirely justifiable. Dr. Charles K. Briddon, of New York, following Tait, had operated in October, 1883. The history of this case is included in the series of this paper.

Case 1.—Mrs. F., 27 years old. Four weeks after cessation of menstruation she received a shock in stepping from a street-car; she had an attack of pelvic peritonitis, and was sick for several months, during which time the abdominal tumor steadily enlarged. Her progress was steadily towards death. An examination failed to establish an accurate diagnosis. Aspiration was performed, and about four ounces of straw-colored fluid were obtained. Subsequently her sufferings became agonizing, and, except when relieved by morphia, she had constant vomiting. Death occurred twelve hours later. At the post-mortem the uterus was found enlarged and pushed forward. There was a general peritonitis. A fœtus of four months was found in Douglas's cul-de-sac. Had an accurate diagnosis been possible, laparotomy would still have been fatal. This was the third case in which he had performed aspiration in the early months of pregnancy, and all three proved fatal.

Case 2.—Mrs. G., 32 years of age, had had three children. Menses had stopped for nineteen days. The patient was in an unfavorable condition for operation, and, as there were some doubts as to the diagnosis, a week later it was decided to try electricity. The battery was used for five consecutive days, one pole in the rectum, the other upon the abdomen, using a strong faradic current. The tumor became smaller, harder, and finally disappeared. This was a case of most desperate character, and he had no doubt that had any other course been pursued she would have died.

Case 3.—Mrs. H. had had three miscarriages, she also had a suspected extra-uterine pregnancy, and was treated by the faradic current from a Kidder battery, and, this not proving sufficient, the continuous current was used from twenty cells for several days. She also made a good recovery. Had he not been successful in destroying the fœtus, he would have performed laparotomy.

Case 4.—An Irish lady, four months pregnant; examination showed an ectopic gestation, the tumor lying behind the uterus. The same treatment was instituted. The patient entirely recovered.

Case 5.—Mrs. F., 28 years of age, mother of five children. This was the case of rupture of the Fallopian tube in which Dr. Briddon performed laparotomy. The patient rallied, but died soon after operation.

Case 6.—Mrs. X., 23 years of age, married six years; mother of one child four years old. In this case pregnancy had advanced to the ninth month. She sent for her doctor (Dr. Jewett) with all the symptoms of labor. The os did not dilate as the result of the pains, and an examination showed that the uterus was empty. Dr. Thorne was called to see the case, and diagnosticated ectopic pregnancy, but saw no reason for operating, as the child was dead, and he had had so much trouble with the placenta in his other case. The rule should be not to operate because the fœtus is in the abdomen, but because the fœtus is giving trouble. He preferred not to operate at full term, but to wait until the placenta shrivels, unless the child is known to be alive. The patient was afterwards taken to the Woman's Hospital, and Cæsarean section performed. The placenta was the largest he had ever seen, and weighed four pounds. The fœtus weighed sixteen pounds. The sac was attached to the ascending, transverse and descending colon. Fearing to leave it to cause septicæmia, he made a continuous cobbler's stitch about an inch from the intestine, and removed the remainder of the placenta; he then brought the remnants of the sac down to the lower angle of the wound, and fastened it there, "marsupializing the woman," as Dr. Pallen says. The antiseptic procedure, except the spray, was adopted. She subsequently entirely recovered.

In three other cases he had adopted this expedient of fastening the placenta in the wound and allowing it to slough away. After the fourth month he advises waiting for indications for operating; before that period, although the great triumphs of abdominal surgery might lead us to suppose that laparotomy is the preferable method, he advised the trial of electricity, an infanticide agent of great value, which in the early months of extra-uterine gestation should always be preferred to the dangerous expedient of laparotomy.

Dr. R. B. Maury, of Memphis, read the notes of

A CASE OF TUBAL PREGNANCY WITH RUPTURE OF THE SAC.

The patient had been delivered of a child three years before, when there was no evidence of abdominal or ovarian disease. Her menses were profuse and irregular; she had pains in the hypogastrium at intervals, and when he was called in she had an apparent attack of collapse, with symptoms of intraperitoneal hæmatocele. She received the usual treatment for shock, but without bringing on reaction; the patient was thought to be dying. Upon examination later in the day, the uterus was found enlarged, and just above the pubes, and behind it, a small tumor could be felt through the abdominal wall, rising halfway to the umbilicus; it could not be reached by the finger in the vagina. The diagnosis was tubal pregnancy. Afterwards symptoms of peritonitis appeared; on the sixth day she had a chill, temperature 103°, pulse 150; on the seventh temperature was again 103°; but on the next day it fell to normal, and did not rise again. Subsequently the tumor became progressively smaller. Six months afterwards she had a uterus as movable as in health, and behind it a small hard tumor. Hæmorrhage had entirely ceased. There had been no deciduous membrane. With regard to etiology, he only submitted one observation—that the husband had a stricture of the urethra, and had had urethritis several times in the preceding two years.

With reference to the question of laparotomy in this case, recognizing the rupture, the question of operation was discussed, and it was decided not to operate until she got over the shock. After waiting for several days, he had written to Dr. Thomas, who advised him to wait for symptoms, and, if pelvic peritonitis appeared, to operate. The result showed the wisdom of this course. It would seem to be the better course for surgeons in such cases to postpone operation until the shock of the rupture has passed away.

In the rather desultory discussion which followed, Drs. Mundé, Harvey, Palmer, Wilson, Howard and Baker reported other cases, and expressed views substantially in accord with those of the lecturer.

Dr. Paul F. Mundé, of New York, read a paper entitled

THE PROPER LIMITATION OF THE OPERATION OF COMPLETE VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE.

A strong and apparently convincing paper upon this subject was read at the last meeting of the society, which declared that both as regards the immediate fatality of the operation itself and the speedy recurrence of the disease, the operation was unjustifiable. In this verdict the Society apparently concurred, with the exception of two members. To the author the absolute condemnation of the total removal of the cancerous uterus seemed hasty, premature and based upon insufficient clinical experience. Had the condemnation been restricted to the method of Freund of removal by abdominal section, he would have heartily endorsed it, as it had developed a mortality of sixty-six per cent., and in the few cases of recovery the speedy recurrence of the disease took place almost without exception. This operation has been abandoned by Freund, or at least restricted to exceptionally-favorable cases of undoubted limitation of the disease to the body of the uterus, with unusually thin walls and lax ligaments. This operation he had not personally performed, but had seen several cases in the hands of several eminent operators, who, after persistent efforts, either failed to remove the uterus or in doing so completely exhausted the patient, the result in either case being speedy death from shock or hæmorrhage. But the Society apparently condemned all operations for the removal of the cancerous uterus, apparently overlooking the excellent results of the removal of the organ through the vagina. It is due to the many experienced surgeons and conscientious operators who hold a different opinion, and to the interest of progressive surgery, to enter a respectful protest against the wholesale condemnation, at least so far as this vaginal operation is concerned.

As early as 1876 (two years before Czerny, of Heidelberg, revived the old, long-forgotten operation of Sauter, of Constance, who was the first to devise this method and carry it out successfully), the author's attention had been directed to the operation, and before the New York Obstetrical Society (October 17, 1876) he had made this suggestion, during the discussion of a fatal case of the abdominal operation for hysterectomy. While at Wurzburg, in 1868, he had seen a reprint of an old graduation-thesis presented to the University of Göttingen, written in 1827 by Von Siebold, on the "Extirpation of the Cancerous Uterus." After reviewing the various methods of Sauter, the elder Langenbeck and others, he said that his personal investigations on the cadaver had demonstrated the impossibility of detaching the peritonæum from the non-puerperal uterus above the level of the internal os. A perusal of Schroeder's operation of wedge-shaped excision up to the internal os and of vaginal extirpation, together with Dr. Jackson's paper, decided him to seize the next favorable opportunity to perform the latter operation.

Case 1.—E. M., 43 years, ten children, two abortions, came, in October, 1883, to his service at the New York Polyclinic for menorrhagia existing six months. Last child born nine years before. Cancer of cervix was found, extending upwards, but limits could not be ascertained. Uterus was freely movable, vagina capacious, parametrium apparently free of disease. No enlarged glands or induration of any kind in the pelvic cellular tissue. Vagina healthy, general health still fair. On October 10 the operation was performed. Sims' position; uterus drawn down with double volsella forceps; with a knife he first made a semicircular incision through the anterior fornix vaginæ, pushed up the bladder with the fingers, then completed the circuit of cervix by posterior incision, detaching the vagina very easily with the fingers, except at the side where the vessels enter and leave and the folds of the broad ligaments join each other. Two fingers of the left hand were entered in Douglas's pouch, to the right border of the uterus, and the peritonæum was then pushed out and severed with closed scissor-points; the peritonæum was then readily torn, so as to leave the uterus free except the attachment of the broad ligaments. Seizing the fundus with a tenaculum through the posterior opening, with extra-abdominal pressure the uterus was retroverted, and after considerable difficulty, owing to the large size of the uterus, it was drawn through the posterior incision. Each broad ligament was now tied in three sections with No. 2, braided, carbolized silk, and divided with scissors. The application of the ligatures was quite difficult, but no blood was lost from the ligaments, and not more than a few ounces in all. The ovaries were readily removed with the tubes. The patient's condition was good. The wound in vaginal vault was closed with silk sutures, the peritonæum not being occluded. A rubber drainage tube was introduced, and the vagina packed with iodoform gauze. There was no shock. On the third day the tampon was removed and vagina irrigated; on seventh day drainage tube was removed. Patient left bed on twelfth day, and on the thirteenth all but three of the ligatures came away; the stitches were removed on the sixteenth, when the wound was practically closed. Patient recovered from the operation. There was no return of the disease for nine months, when it reappeared in the cicatrix. No further operation is contemplated. The patient's general health is still good.

In Case 2 the operation was a difficult one, the disease having extended to the surrounding tissues. The patient did not react from the shock, but perished a few hours later. In a similar case he would not again perform the operation, nor would he consider it advisable.

Admitting the truth of Dr. Jackson's first conclusion concerning the difficulty of early diagnosis of uterine cancer, he claimed, however, that our facilities, both as regards the greater readiness of the female sex to submit to examinations when the significance of certain symptoms is made clear to them, and as regards the early recognition of cancerous degeneration, will doubtless improve every year. He said that it will be granted that the number of cases in which vaginal hysterectomy for cancer is indicated as justifiable and offers fair chances of recovery will always be small. Out of 812 cases of uterine cancer seen by Schroeder or his assistants, only in 34 was colpo-hysterectomy performed. Marter reports 52 hysterectomies; Olshausen, 32; and out of over 160 cases of uterine cancer which he had seen, he found only 2 cases which seemed to him to permit the radical operation. So far as the first-named operators are concerned, their indications have been, by their own statement, considerably restricted since they began to operate.

Secondly. Dr. Jackson states that, the diagnosis once established, there is no hope for a radical cure. This is refuted by Carl Braun's statistics for various operations, chiefly the galvano-caustic amputation of cervix. Paulet reports 136 operations of this character, 10 of which proved fatal; and of the 126 patients who recovered, 31, or 25 per cent., remained well after two years. Schroeder reports 129 cases operated on during the last eight years: 28 cases, or 21 8-10 per cent., remained well after two years. He frankly states that in four of these cases the disease returned as late as from two and a-half to three and a-half years, but 24 remained well after this period—certainly an excellent result in this fatal disease.

The operation compares favorably with that for cancer of other organs. Surely no one will doubt the correctness of the diagnosis in the hands of such an experienced gynæcologist as Carl Braun. A disease in which 144 of the patients remain well after two years cannot be said to be incurable by operative measures.

Tables were then shown in reply to the statement that the operation is a highly dangerous one, and affords to those who recover no hope of radical cure, which show that out of 82 operations there were recoveries in 48, and 32 remained well after two years. The comparatively few cases which have been under observation for two years or longer after the operation may appear strange; but it is because the operation is so recent that the few operators have had no opportunity of following up their cases, or, if they had, they have not yet reported them.

The result of 39.5 per cent. compares very favorably with Paulik's cases of removal of cancer of the cervix (only 25.0), or of Schroeder (21.8), after different methods of operating.

The lines of the operation certainly need to be more strictly drawn. The presence of enlarged glands or infiltrations of any kind in the parametrium (vaginal wall or pelvic cellular tissue), the fixation of the uterus, even to the slightest degree of exudation—these conditions should absolutely contra-indicate hysterectomy. A rectal examination with the finger will prove of great value in determining these points.

He said that in the discussion at the Berlin Obstetrical Society (May 23, 1884), Löhlein, Ruge, Olshausen, Hofmeier and Marter had spoken in favor of this operation when performed in selected cases.

Thirdly. As regards the danger of the operation itself, it has been exaggerated by Dr. Jackson. Ovariotomy is also dangerous, but it is justifiable. So are nephrectomy and other major operations. A table was here introduced to show the mortality directly following the operation of vaginal hysterectomy for cancer: 235 cases and 52 deaths in Europe; 21 cases and 10 deaths in America; making 256 cases, with 62 deaths, or 24.6 per cent. This disproves Dr. Jackson's statement as to immediate danger of operation.

The two main questions to be decided are really:

1. Can vaginal hysterectomy for uterine cancer be performed without so great a loss of life as to render it unjustifiable?

2. Can we hope to secure by it complete immunity from a return of the disease, or at least so much relief from suffering for several years as to compensate the patient for the risk she incurs of losing her life by the operation?

To each of these he returned an affirmative answer, and then proceeded to consider the details of the operation. In conclusion, he said that, inasmuch as vaginal hysterectomy is an operation based on sound surgical principles, the object of which is to save and prolong life, and not to shorten it, and as the indications for results and justifiability of operation are not a matter of sentiment or theoretical reasoning, but of solid facts and figures, the operation is one which should not be absolutely rejected, but increasing experience will show its usefulness in its limited field. Finally, he reviewed the minutiæ of the operative procedure for vaginal hysterectomy, the success of which would be favored by early operation, before the general health is seriously impaired, and before the disease has extended far into the uterus. Where surrounding tissues or organs are known to be involved, the operation is not justifiable.

DISCUSSION.

This paper gave rise to a spirited discussion, shared by Drs. Reamy, Jackson, Van DeWarker, Engelmann, Palmer, Baker, Scott, Fenger and Mundé. The different speakers varied radically in their recommendations, and differed in opinion upon the utility of any operation whatever in cases of uterine cancer. Hysterectomy was considered an heroic remedy, whose limits of usefulness were certainly very restricted, and whose utility had not yet been satisfactorily demonstrated. Partial operations, like that of Dr. Baker, were thought to be safer, and, in some cases at least, more successful. The operation recommended by Dr. Mundé has not been practised a sufficient period of time to permit a legitimate comparison with other methods (or none at all) as to the relative length of life afterwards.

Dr. Edward Warren Sawyer, of Chicago, read a paper entitled

SOME REMARKS ON THE OCCIPTO-POSTERIOR POSITION IN VERTEX LABORS; WITH AN ANALYSIS OF THIRTY-EIGHT CASES OCCURRING IN THE PRACTICE OF THE AUTHOR.

After referring to the great disparity existing in the recorded statistics as to the comparative frequency of posterior position in vertex labors, he said that he had met with thirty-eight instances in one hundred and eighty-three labors, or in nearly one-fifth of his vertex cases: in three the occiput was to the left, in thirty-five to the right. Twenty-six occurred in primiparæ, twelve in multiparæ, the greater frequency in the former being due, in his opinion, to the slightly greater density of the tissues in front, by which the back of the child is forced into the back part of the uterus, whereas in multiparæ the relaxation of the parts allows the occiput to occupy the position to which it naturally gravitates, with the back to the front; the excess of the right position over the left is undoubtedly due to the presence of the rectum.

The prevailing idea of the mechanism of posterior vertex positions is that it is the same as in anterior positions, the rotation being more extended (Tarnier, Leischman, Lusk); yet this doctrine is somewhat questioned by some. His own observation was that when the occiput engages in a posterior position it persists in this position, and naturally is delivered in this position, very rarely rotating to the front. In thirty cases out of thirty-eight it was delivered in the posterior position; rotation to the front with the forceps was not attempted.

He next considered the question, How long should the attendant wait for rotation without interfering, when the head is near the inferior strait, before putting on the forceps? After referring to a case of Madame Boivin's, where the woman was delivered of a dead child after waiting forty-eight hours, the mother dying afterwards, he said that in his own experience occurred the following case: the wife of a physician, who had been twenty-eight hours in labor, the head refusing to engage on account of posterior position, he performed version and delivered, but she died in a few hours. In another case he delivered with the forceps successfully after twelve hours. In no instance had he regretted early interference with the forceps, but he had several times regretted too much delay. He had been guided by a simple precept, viz., not to allow a presentation to remain more than two hours at any point in the parturient canal. After the bag of waters has been drained away there is greater danger to the tissues of the canal.

Referring to the difficulty of ascertaining by the touch alone the position of the presenting head, he said that where the labor goes on, and some difficulty is found in the second stage, this cause should be suspected; it is a condition of danger, and demands the interference of the attendant for the mother and the child. The diagnosis can only be made positively by introducing the hand into the vagina, in order to permit the fingers to ascend in front of the child and detect the superciliary ridge. For this examination the mother should have ether administered.

Having recognized the position, two courses are open for the obstetrician: (1) to deliver with the forceps in the same position, or (2) to endeavor to change it to an anterior position. The latter can only be done by introducing the hand into the vagina, so as to grasp the fœtus and turn the shoulders with the head. It is always difficult to turn a slippery head with the fingers alone. If the attempt fails to turn the shoulders with the head, there is danger of twisting the neck.

Where it is decided to deliver with the forceps in the posterior position, he places the woman upon her left side, and has her under the influence of ether. Tarnier's forceps he regards as very dangerous in this class of cases. He uses his own modification of Simpson's forceps, and applies the blades to the sides of the child's head. The handles of the forceps should be brought well forward, so as to keep the head in complete flexion. When left to nature's unaided efforts, the sharp vertex ploughs through the perinæum, and may perforate it; with the forceps the perinæum may be protected, and the head can be brought down in the occipito-frontal diameter, which is one-fourth inch less than the occipito-mental. The rule is to keep the head flexed. For this purpose he prefers his continuous-curve forceps, which he presented to the Profession in 1878. While in the multiparæ the perinæum was often saved, it was lacerated in all the primiparæ.

The mortality was as follows: four children were still-born; six others died shortly after birth; one died in the uterus from rupture of the umbilical cord; some may have died from injury with forceps.

He concluded by exhibiting his forceps, and explaining their peculiar advantages for the condition under consideration.

In the extended discussion on this paper, in which Drs. Richardson, Reamy, Johnson, Howard, Engelmann and the President participated, a general disagreement with Dr. Sawyer's opinions as to the mechanism of occipito-posterior positions was shown, and no particular advantage was accorded to the single curve forceps. Even the diagram copied from Snelling unfortunately came in for adverse criticism on account of deformity and want of conformity with nature.

Dr. George J. Engelmann, of St. Louis, presented two papers, entitled, "Periodical Symptoms in Uterine Disease," and "A Rare and Fatal Form of Sepsis without Symptoms."

The former was read by title, the latter *in extenso*.

A RARE AND FATAL FORM OF SEPSIS.

There is a peculiar form of septic poisoning, due to obscure causes, puzzling in its manifestations, apparently of favorable prognosis, but invariably fatal in its termination. The symptoms are not those of septic poisoning: none of these may be present, or one only and the others absent. The temperature is usually not above the normal, so that the physician who depends upon the thermometer may be deceived and misled into giving a favorable prognosis. These are cases in which a sort of medical intuition is required rather than ordinary diagnostic skill. The text-books and usual authorities do not call attention to this class of cases, perhaps for the very reason that it is difficult to describe a symptomless disease.

Fever and pain are the symptoms most usually relied upon in septicæmia, but here they may both be absent, and the danger is greatest where the symptoms are least or are absolutely wanting. There may be no elevation of temperature, no apparent depression of the vital powers, no profuse sweats, no elevation of the pulse, no diarrhœa with intestinal catarrh. There may be chills, or there may be none; in fact, it is the absence of symptoms rather than their presence which characterizes this form of septic poisoning. The pulse may be slightly rapid and feeble, and there may be some painless looseness of the bowels, or bronchial catarrh, but nothing marked. He must, therefore, take exception to the statement of Dr. Barker that the "symptoms will vary with the quantity of the poison absorbed and the site of the disease," and that the thermometer "is the best means of recognizing the cause, as there is always elevation of temperature," as it had not been confirmed by these cases.

This condition is apt to follow the removal of uterine fibroids and ovariotomy, but it may occur in either sex. These views are not based upon Dr. Engelmann's experience alome; he has had others in consultation with him, who could confirm his statements. He had seen such cases where able professors had denied the presence of sepsis, even until the last day of life. He might mistrust his own observation, had it not been that others had seen the cases with him.

His first case was an elderly gentleman, suffering with enlarged prostate, who had been in good health, and was traveling in Germany. As he was in the railway-cars, he could not empty his bladder when he wished, and a few days later found difficulty in passing his water. A catheter had to be used; still he did not get better. He was in able hands, under the charge of gentlemen connected with Langenbeck's clinic, and careful examinations were made, but no symptoms of disease of any kind were detected. The catheter was passed easily, the urine was clear, but the patient was evidently failing. At the end of six weeks he passed away, comatose, without any symptoms. A post-mortem examination revealed a collection of pus surrounding the kidneys, which appeared to be secondary to a small abscess in the prostate gland. The ureter passed through a sac of pus for almost its entire extent. It is strange that this did not produce any effect upon the pulse or temperature; but there was a slight diarrhœa shortly before death, though not a septic diarrhœa.

In a second case, a child died from this form of septic poisoning after diphtheria, which was one of several which he had seen which were precs ely alike, without any fever. For several weeks septicæmia was progressing in his body without producing symptoms, until he suddenly had convulsions and died.

Another case was that of a primipara, a young woman 28 years of age. The child was delivered by the breech, and there was some difficulty in removing the placenta; the perinæum was torn a little; no operation was performed, but antiseptic injections were used. Although the temperature was 103 1-5° and pulse 140 the next day, this soon subsided, and the temperature remained about 98½° to 98⅓°. She then expressed herself as feeling well and comfortable, but her abdomen was immensely distended. He was called to see her at this time, and considered the case hopeless. The pulse alone was affected—it was 104 and depressed; the temperature was normal. She continued thus, feeling well, for several days; but on the fourth day she began to sink rapidly, vomited constantly even fæcal matter, and died comatose. After death her peritoneal cavity was found filled with pus.

The next case of septicæmia was one which was not recognized as blood poisoning by one of our oldest and best physicians, and, after continuing under his care from four to six months unnoticed, went to its end without being discovered. The case was originally one of fibroids of the uterus in a virgin 56 years of age. There had been hæmorrhage and other symptoms of fibroids; she had a discharge of a dark color, foul-smelling, containing shreds of tissue. Her pulse was 80 to the minute, temperature 99°. Coming under his care, he now used antiseptic injections into the uterine cavity, and afterwards powdered the cervix with iodoform; he gave quinine in large doses until her condition gradually changed. He told her physician that she should not be treated locally only, as she was suffering from septicæmia. The discharge afterwards became less, the pulse improved and she was much better, apparently, from cleansing the uterine cavity. He stopped treatment, and the next day she had a chill, followed by abdominal pain and fever (104°); pulse, 120; but the temperature of the next few days was 98°, 97 3-10°, 97 6-10°, and just before death it was 95° in the rectum. In this case a physician assured the family that there was no septic poisoning in the case, because of the low temperature.

In another case the patient suffered with pelvic peritonitis. The temperature was only half a degree above the normal, the pulse was either a little accelerated or remained at the normal. There was no pain and no sensitiveness in the abdomen; the patient felt well, but, contrary to expectation, she gradually sank away.

He believed that, as these cases are not infrequent and are usually fatal, they should be recognized. As they are also extremely interesting, he had deemed them worthy of discussion at this meeting.

DISCUSSION.

Dr. Richardson said that he had seen five or six such cases, and would confirm what had been said as to their history and prognosis. The very hopefulness of the patient would lead him to suspect the presence of this form of septicæmia.

Dr. Reamy endorsed the description as far as the slow or not accelerated pulse and low temperature; he had also noticed a sort of mental excitement—the patient feels very well, and calls especial attention to the fact. He mentioned particularly a class of cases with distended abdomen without elevation of temperature, and also cases of peritonitis without fever, which are closely allied to those mentioned, and likewise prove fatal.

Dr. J. Taber Johnson reported a case of a woman on the ninth day after delivery, without ordinary septic symptoms, but she said that she was going to die, although she felt well. There was no elevation of pulse or temperature, but she did die. He thought that the death after diphtheria might be due to some other cause than septic poisoning.

Dr. Engelmann closed the discussion, reiterating the principal features of the cases.

The following papers were read by title by the Secretary:

"The Hygiene of Pregnancy," by Dr. Samuel C. Busey, of Washington.

"Rapid Dilatation of the Cervical Canal," by Dr. William Goodell, of Philadelphia.

"The Physiognomy of the Vulva as a Sequence of Anal Disease, and the Cause or Sustaining Cause of Uterine Diseases," by Dr. Isaac E. Taylor, of New York.

"The Early History of the Treatment of Vesico-Vaginal Fistule in the United States, and the Statistics of the Several Modes of Operating," by Dr. Nathan Bozeman, of New York.

"Periodical Symptoms in Uterine Diseases," by Dr. George J. Engelmann, of St. Louis.

"Contributions to the Topographical and Sectional Anatomy of the Female Pelvis," by Dr. David Berry Hart, of Edinburg; presented by Dr. Alexander J. C. Skene, of Brooklyn.

"Fibro-Myomata and Fibro-Cystic Myomata of the Uterus: their Diagnosis, Prognosis, Pathology and Treatment; with Cases and Specimens," by Dr. R. Stansbury Sutton, of Pittsburg.

"On the Ring of Bandl," by Dr. William T. Lusk, of New York.

BUSINESS MEETING.

The annual meeting for private business was held on Wednesday evening, when the reports of the Treasurer and Auditing Committee were read and adopted. The proposed amendments to the constitution and by-laws, which had lain over from last year, increasing the limit of membership to one hundred, were adopted. An amendment proposed by Dr. Emmet last year, making a slight change in the method of election, and requiring that all names of candidates for Fellowship should be brought before the Society by the Council before final action upon them, was also adopted.

Dr. Babcock, of London, England, was elected to honorary membership. No active members were elected.

The following officers were elected for the ensuing year:

President.—William T. Howard, M.D., of Baltimore, Maryland.

Vice-Presidents.—W. L. Richardson, M.D., of Boston, Massachusetts; Paul F. Mundé, M.D., of New York.

Secretary.—Frank P. Foster, M.D., of New York.

Treasurer.—Matthew D. Mann, M.D., of Buffalo, New York.

Other Members of Council.—Drs. A. Reeves Jackson, H. P. C. Wilson, J. Taber Johnson, and Ely Van de Warker.

The City of Washington, D. C., was selected as the next place of meeting, in September, 1885—the time of meeting to be the third Tuesday and the two following days.

BANQUET.

The Society was the guest of the Chicago Gynæcological Society at a grand banquet given at the Palmer House on Tuesday evening, at which Dr. A. Reeves Jackson presided. A large number were present, including many prominent members of the local profession.

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Efficiency of Lightning Rods.—Prof. Mohn, of Christiania, Norway, having been employed by the Government to investigate the efficiency of the protection afforded to buildings by lightning rods, seems to have substantially settled the much-debated question, at least for that region of country. His report shows that lighthouse, telegraph station, and other exposed buildings, which were provided with conductors, did not by far suffer as much as churches, which in most cases were unprotected. It appears, in fact, that of about 100 churches reported to have been struck by lightning only three were provided with conductors; that of these three the first had a conductor in good order, and the building was uninjured; the second had a conductor of zinc wire, which melted, and, of course, left the structure without protection; the third had a wire which was rusty where it joined the earth, and the church was burned. More than one-half the number of churches struck were totally destroyed. Mr. Preece, the English Government electrician states that no damage has occured to telegraph poles since the practice was adopted of providing them with lightning rods or earth wires.

ORIGINAL CORRESPONDENCE.

632 Sutter Street, London, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Sir: Having received a very favorable report of the hypnotic effect of paraldehyde, I commenced its use in June last, and having given it some three or four hundred times, I am unable to speak of its value in many cases where opium and chloral are contra-indicated.

I first gave it in two cases of insomnia during the last weeks of pregnancy. Fifteen minims were dissolved in a little whiskey flavored with lemon syrup. The dose was taken at bed-time, and repeated in an hour if required. Much seemed to depend upon the condition of the nervous system. A single dose was often sufficient to procure a good night's sleep, and two never fail to give a longer sleep. In a case of cardiac asthma, in which the tincture of convallaria has been extremely beneficial, the greatest comfort was derived from a twenty-minim dose of paraldehyde on going to bed. It is not taken every night, but when from any cause there is a condition of restlessness and insomnia. In a case of acute dropsy, complicated with a mild form of delirium, the result of prolonged alcoholic excesses, it acted most favorably where chloral had failed and opium seemed contra-indicated; it was given in whiskey in a dose of twenty minims. In a case of cancer of the stomach, in which there had been no sleep for many nights, it was given by the rectum, mixed with mucilage, and uniformly gave a long sleep. In two cases of epithelioma of the cervix, in which there was simply great nervous prostration and sleeplessness without acute pain, from twenty to thirty minims uniformly gave a good night's repose.

In a case of typhoid fever with prolonged insomnia, the use of paraldehyde was commenced on the tenth day, and continued for upwards of a fortnight. The patient is now convalescing in the sixth week, and sleeps well without the remedy. He usually required two doses of fifteen minims each. In a case of insomnia in advanced albuminuria, it has been given almost nightly with great advantage.

Paraldehyde is a pungent, ethereal liquid, a derivative from alcohol and acetic acid. It should be dissolved in some form of alcohol, either whiskey flavored with lemon, or an elixir rich in spirit. It produces no depression of the circulation. It is never followed by sickness nor by headache. It does not constipate the bowels, nor does it destroy the appetite. The effect is somewhat more permanent than that of the more common ethers. The odor is perceptible in the breath, and in one case it was still noticed sixteen hours after the exhibition of the remedy. In that case the patient had taken half a drachm, and slept well on the second night without a further dose.

There is no difficulty in leaving off the remedy.

I have not given paralehyde for the relief of acute pain, for which it seems to me unsuitable, as the sleep produced is not very profound, and at any time the patient may be aroused without difficulty. It seems to me that paraldehyde possesses all the advantages of a moderate dose of chloral without its disadvantages, and I am satisfied that it is a very valuable addition to our list of hypnotics.

J. H. STALLARD.

5 HERTFORD STREET, MAYFAIR, LONDON.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: The general meeting of the International Medical Congress, held at Copenhagen on August 14th, 1884, upon propositions made by Sir James Paget, Professor Ewald, of Berlin, Professor Bouchard, of Paris, and Dr. Billings, of Washington, passed the following resolutions:

1.—That an International Committee be formed for the Collective Investigation of Disease, in connection with the work of the International Medical Congress.

2.—That the following gentlemen do represent their respective countries thereon:—Denmark—Professor Trier, of Copenhagen; Professor C. Lange, of Copenhagen. Scandinavia—Dr. E. Bull, of Christiania. Russia—Dr. Rauchfuss, of St. Petersburg. Germany—Professor Ewald, of Berlin; Professor Bernhardt, of Berlin. Austria-Hungary—Professor Schnitzler, of Vienna; Professor Pribram, of Prague. To whom was added by co-optation the following representatives: Professor Korányi of Buda-Pest. Switzerland—Professor Despine, of Geneva. France—Professor Bouchard, of Paris; Dr. Lépine, of Lyon. Great Britain and Ireland—Sir William W. Gull, Bart.; Professor Humphry, of Cambridge; Dr. Mahomed, of London. British India—Sir Joseph Fayrer, K.C.S.I. United States—Professor Jacobi, of New York; Professor N. S. Davies, of Chicago. South America—Dr. Gutiérrez-Ponce, of Paris. Secretary-General—Dr. Isambard Owen, of London. Representatives of other countries to be hereafter appointed.

In accordance with the following resolution of the first meeting of the above committee, held at Copenhagen on the following day, viz.—

"That the secretary be instructed to prepare a statement as to the objects of the Committee, for translation and publication in the journals of the various countries represented"—

I beg leave to submit the following statement to the members of the Medical profession of ——

ISAMBARD OWEN, Secretary-General.

The main objects which the committee seeks to attain through the Collective Investigation of Disease are to widen the basis of medical science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole Profession the limits and defects of existing knowledge, as well as to stimulate observation, and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of Medicine rests, such as chemistry and other branches of physics, physiology and pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It cannot be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold that no single man, however gifted and long-lived, can hope to bring the whole within his range. The need, therefore, in Medicine, of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, cannot be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our committee to supply.

Disease is many-sided, and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the Army and Navy, and of workhouses and asylums, will be asked to contribute their quota of observation to the common fund.

In England and in Germany organizations for this purpose already exist, through which work has been accomplished; and a volume entitled the "Collective Investigation Record," containing tabulated returns, with reports upon them and other matter, is published annually by the British Medical Association. France and Austria are alive to the importance of the new method. In Scandinavia and in the United States the foundations of associations have been laid. Denmark, Russia and Switzerland are setting their hands to the task. To unite these several associations by an international organization for the study of various problems, and to induce the formation of similar combinations elsewhere, is felt to be a work peculiarly befitting an International Congress. Our committee is enjoined by the Congress at Copenhagen to endeavor to carry out this work, and, in compliance with that injunction, it invites the co-operation of all who have at heart the promotion of medical science and practice.

The following is the proposed method: A subject having been selected, a person or persons of acknowledged authority will be asked to write a memorandum, in the form of a short essay, upon it. The memorandum will succinctly give the present state of our knowledge. It will also point out the directions in which further research may best be made; and, with this view, will suggest a few simple and definite questions upon the subject selected. The questions will relate to matters of fact, to be elicited by observation of cases, rather than to matters of opinion.

The contemplated organization will, it is hoped, in time enable a committee to ask and collect answers to these questions from the Profession at large wherever scientific medicine is studied or practised. It will be a further duty to examine, arrange, tabulate and deduce results from the mass of observations thus collected, due credit being given to each contributor for the information he has furnished, and reports on the results of the several investigations will be laid before the International Congress at its next meeting at Washington.

NEW YORK, November 1, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: I was told in Boston this week that the cocoaine salt I sent you a note of has been used there with great success by so many that the apothecary cannot supply the demand, even at the apparently-exorbitant price named, $5,000 per pound. Yours truly,

E. CUTTER.

CABLE MESSAGE.

PARIS, November 4, 1884.

To Dr. Gaillard, 62 *Astor House, N. Y.:*

No letter—Sickness.

WARREN.

THE SIMPLEST AND SAFEST METHOD FOR THE RADICAL CURE OF HEMORRHOIDS.—The *London Medical Record*, May 15, 1883, says that Scarenzio recommends (*Renaiconti del Regie*, 1st Lomb., 1882) the elastic ligature, in preference to all other and more complicated methods, as being the safest and most effectual for the removal and radical cure of hemorrhoids. Its gradual action allows time for the formation of a firm clot in the veins, and the mass separates after two or three days, leaving a simple citatrized wound. The pain caused is trifling and only lasts a short time. He has operated often by this method and has never seen any bad effects follow.—*Med. and Surg. Reporter*.

SANITARY DEPARTMENT.

Vitiation of the Air by Breathing and Illumination.—It is found that a man gives off somewhat over 6-10 of a cubic foot of carbonic acid per hour; that a lamp or two lighted candles produce the same amount, and that a gas jet, burning 3 cubic feet of gas per hour, produces as much carbonic acid per hour as two or three people. It is true that the gas gives off no organic impurities, but if not burning brightly the poisonous carbonic oxide is always formed. If we adopt 6 volumes in 10,000 as the safe limit of the amount of carbonic acid to air, then it follows that for every man or lamp or two candles in a room we must supply at least 1,000 cubic feet of pure air in every hour to dilute the 6-10 cubic foot of carbonic acid formed. A gas jet will require two or three times as much pure air. But since the admitted air contained carbonic acid, we must supply more air to not exceed the maximum adopted; thus if the admitted air contain three volumes in 10,000 of carbonic acid, we must admit 2,000 cubic feet for every person, since the 6-10 of carbonic acid admitted, added to the 6-10 expired per hour, gives the ratio of 12 to 20,000 or 6 to 10,000 allowed. It is said by some that experience in hospitals shows that from 2,000 to 3,000 cubic feet of fresh air should be admitted every hour for each individual; whilst again we are told that for a healthy person in a barrack room 1,200 cubic feet per hour will suffice, and that the vitiation, tested by the sense of smell, for hospitals is not perceptible when somewhat less than the 2,000 to 3,000 cubic feet are provided. No fixed standard has thus been agreed upon. In fact, it doubtless varies with the climate and the health of the person. The Laplander can breathe impure air better than we, probably because the organic impurities thrown off by him are not so readily decomposed as in our warmer air. The carbonic acid formed by combustion and respiration being heavier than air at the same temperature would sink to the floor; but in consequence of its high temperature it first rises to the ceiling so that as much as 60 to 70 parts of it in 10,000 of air has been found at the top of an ordinary-sized room in which two people were sitting and three gas-jets burning. At the same temperature, however, we should expect to find the largest amount of it at low elevations, thus vitiating the lower strata of the atmosphere, or room, very greatly. Fortunately, however, gases have the power of "diffusion," so that a heavy gas will actually rise to mix with a lighter gas; further, it will pass through membranes and thin plates of stucco to effect the same object, so that the amount of carbonic acid is not generally a function of the elevation of a locality. Where a room has no flue or chimney to keep up a constant circulation, then openings should be provided near the top of the room to let the warmer impure gases out, and not let them cool and descend again to vitiate the air we breathe.

Lime as a Purifier.—If a house has been lately plastered or whitewashed, the lime will, at first, take up the carbonic acid with avidity; so will any ordinary mortar; in fact, I have seen artificial stone made by passing the products of combustion of a stove (carbonic acid mainly) by a flue into a room where was placed the mortar, moulded into the required form. The lime of the mortar changed to carbonate of lime, which cemented firmly the grains of sand into a hard rock. It destroys organisms to whitewash. It would seem, therefore, that a plastered wall whitewashed was better than either the "hard finish" or papering. The accumulation of filth in successive coats of papering in old houses is probably frightful. Most of us have seen the trunks of trees whitewashed. This seems to me a misdirected effort to promote health. Why should such indignity be practised on our noblest growths, stopping up the pores of the bark, and probably injuring the tree, in order to remove a little carbonic acid out of doors, where it is not in excess?

Limit to Ventilation Schemes.—It is impossible to change the air, with comfort in a room, as often as the winds do out of doors; but we can easily prevent the air in the rooms from becoming too impure to breathe. Even when there is no special attention paid to ventilation, it is found that the hotter inside air is going out continually, through every possible outlet, and cool fresh air coming in to take its place. In very open houses ventilation is often secured by the poor construction, in spite of the inmates, but it is often at a sacrifice of comfort.

Ventilation by the Open Fire-place.—Let us now consider one method of supplying pure air to a room containing an open fire-place. A fire must be kept brightly burning in the fire-place, to heat the air in the chimney or flue, causing a difference of pressure in the external and internal air, so that the out-door air rushes in through every crack and crevice, even through the solid walls, and thus forces the foul air up the chimney. It is found, however, by experience, that the openings mentioned are not generally sufficient to admit a sufficient volume of pure air. Hence our custom is, at intervals, when headaches or debility are experienced, to open the doors or windows "to let in a little fresh air." A wise precaution certainly; but it does not meet the whole case, for air should be admitted without draught—*i.e.*, without the influx of sharply-defined cold currents, which, as is well known, produce colds, with their attendant evils. The problem has been solved, however, in several ways, the details of which are simple in the extreme. Thus, if the lower sash of the window is raised a few inches and the opening below is completely closed by a strip of plank, there will still remain an opening between the sashes where they overlap, through which the air will pour, being necessarily directed upwards. It thus strikes the ceiling, and is then gradually diffused through the room without draught. A common expedient of simply lowering the top sash allows the cold air to "trickle down" on our heads. In the latter case, however, a board may be placed at an inclination against the upper part of the sash, so as to give the entering current an upward direction. Either of these plans is liable to failure when curtains or blinds are used, so that a more generally applicable method would consist in boring holes through the upper part of the doors or walls, and giving the entering air an upward direction by means of inclined planes of some kind; or tubes of wood or iron may be passed through the walls and turned directly upwards on entering. They should extend to at least 7 feet above the floor. The air in all cases should be drawn directly from out-doors, and not from passages or other rooms. The openings, moreover, should admit of being partially or entirely closed on very stormy and windy days. All of the above plans have been tried in dwellings, club-rooms, etc., with complete success. The proper size of tube or opening to use must be determined by experience. Two tubes, of two inches diameter each, may be tried for an average-sized room for two persons. It is stated that "two square tubes, 5x5 inches, will keep a good-sized club fresh."

ARGUMENTS FOR AND AGAINST EXCLUDING RAIN WATER FROM SEWERS.—The reasons for and against separation of the rain water may be stated as follows: *For Separation*—It is urged that even if a distinct set of sewers is used to convey away the rain water, that it is cheaper; since the rain-water sewers can discharge into the nearest stream (thus giving it its natural volume), and can thus be made shorter than the sewage conduit, which is often carried a considerable distance. Besides, the sewage conduit is very much smaller and therefore cheaper in this case. Again, on account of the small size of the conduit, the sewage is carried out of town much more quickly, thus preventing that stagnation which sometimes occurs in large sewers, having only a thin film of sewage flowing slowly over the bottom, much of the solid material being deposited to decompose and generate the most hurtful gases. Likewise, the manurial value of the sewage is increased, and any expense of pumping very much diminished. *Against Separation*—It is urged, on the other side, that chemical analysis shows that, in large cities, the storm waters wash away so much filth as to render the water as impure as the sewage; so that, at least, the first portions of the rainfall should be admitted into the sewage conduits, though the balance may be passed into the streams. Also, there are objections to the use of so many pipes in the streets; two sets of sewage pipes, with smaller drains often crossing, besides gas and water pipes; the drainage pipes, too, having to be laid everywhere with a fall. It is plain, however, that if the surplus of the rain water is to be allowed to go where it can, that the old channels should at least be so much improved as to prevent flooding of cellars and formation of any stagnant pools anywhere. So much separate drainage should at least be insisted on. It is certainly in the line of simplicity to adopt but one set of sewers; and experience shows that in most towns it rarely causes any inconvenience from flooding. If drainage pipes have already been laid, they should not be abolished, even if sewers are afterwards projected.

CUBIC SPACE ALLOWED.—The amount of space per head allowed in the room by various authorities varies from 300 to 1,800 cubic feet, the amount being smaller when the room is only occasionally filled with its maximum number. It is true that the air can be changed in a small room more frequently than in a large one to maintain the proper degree of purity, or rather impurity, but the increased draught may be objectionable. The amount of space actually given per head in various school houses varies from 70 to 100 to 200 cubic feet. The effect is that 12 parts of carbonic acid in 10,000 (double the admissible amount) is common, and even 20 and 50 parts are not unknown. The effect upon both teachers and pupils is of course headache, listlessness and debility.

USEFUL HINTS.—Finally, let it be impressed upon all that the sense of smell when coming from outdoors into a room should warn us when our rooms are foul, and that doors and windows should be opened when convenient, and articles of clothing and bedding should be aired frequently to purify them. Also let it be remembered that even brick walls can transmit gases. "Pettenkofer got 2,650 to 3,320 cubic feet of air through the brick walls and crannies of his room, when the difference of temperature inside and outside was 34° F. When all the crannies had been carefully stopped up, 1,000 cubic feet per hour still came through the walls." Therefore, never allow filth about any room or cellar of the house, nor against the outside walls, for such filth will contaminate the air that comes into the room, and has been found to cause sickness. If the house is liable to such contagion from adjoining buildings, endeavor to make it as air-tight as possible, after providing for the admittance of the purest air that can be obtained through proper openings. The floors of all houses should be as tight as possible.

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LETTUCE, says the *Lancet*, is a neglected vegetable, although it constitutes a prominent ingredient in every good salad. At one time the lettuce was supposed to possess soporific properties, but of late years it has, perhaps too hastily, been disestablished as a drug in the repertory of the therapeutist. Some are now strongly insisting that lettuce should be used more generally as food, and suggesting that the leaves ought to be boiled, after which treatment they are said to be as palatable as spinach. If this be the fact it is worth knowing, as spinach is necessarily excluded from the diet of the oxaluric patient, and it is precisely in this class of cases the soothing properties of the lettuce, if it have any, would be valuable.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

Note.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.		equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz.	"	"	equal to 1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr.	"	"	equal to 1 5-100ths minims.
1 fl. drachm water at 60 deg. F.			56 96-100ths grains.
1 fl. oz.	"	"	455 69-100ths "
1 fl. gallon	"	"	231 cubic inches.
1 fl. pint	"	"	28 87-100 "

TEMPERATURES.

Centigrade.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

Reaumur.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

Olive Oil for Gall-Stones.—The readers of the predecessor of this *Agc* will, doubtless, recall the discussion of the nature of the masses discharged from the bowels after large doses of olive oil have been given for the relief of biliary calculi. The consensus of opinion was in harmony with the statement of Flint that they "are composed of a concrete form of fatty matter like the bodies passed in some cases of fatty diarrhœa." The editor of the *North Carolina Medical Journal* has recently had an opportunity to make a chemical examination of these discharged bodies, and the result raises a doubt as to the correctness of Dr. Flint's dictum. A patient suspected of having gall-stone was given a full dose of sweet oil which brought away about one ounce and a half of bodies of various shapes and sizes. Some were of the color of greenish myrtle wax, some brown, and others nearly white. They were of the consistency of wax, soluble in alcohol and in olive oil, and inflammable. The particles were covered with adherent oil, and in a few days melted down into a semi-fluid mass. Moistened with nitric acid, a bright red reaction (cholesterine) resulted upon the addition of a few drops of ammonia. Dissolved in ether and evaporated, white crystals resulted, with a few drops of olive oil, which had been dissolved by the ether, floating on the surface. The melted mass was sent to the Curator of the Army Medical Museum, and examined by the chemist. He found by analysis that there was altered cholesterine and cholesterine intact. The quantity was not stated. There is no doubt in the mind of our contemporary that the chief constituent of the bodies in question was cholesterine. Assuming that there is no doubt as to the chemical examination, the question arises: Does the large amount of cholesterine indicate that the bodies are biliary calculi or enteroliths? And another question arises: Will not large doses of olive oil bring the same masses away from any one, independent of the fact that the patient has been seized with biliary colic, and therefore suspected to have biliary calculi? If these bodies are not biliary calculi, or enteroliths (which latter are generally believed to be calculi escaped from the gall bladder), what can they be? The presence of almost pure cholesterine is not known to exist in any other discharges of the bowels, except the two bodies above mentioned. It would be easy enough to believe that any person could discharge masses of bodies similar to those in question, if it were not for the presence for such an amount of cholesterine. In olive oil there is hardly more than a trace, and if there is any combination in the intestinal canal between the olive oil and any other substance to form cholesterine it is not yet known to chemical science.—*Medical Age.*

Colchicine, according to M. A. Houdès, appears in the form of prisms, grouped in colorless mamilla. It is intensely bitter, turns litmus paper blue, and though readily soluble in alcohol, benzole and chloroform, is sparingly so in water, glycerine and ether. With certain organic acids it forms combinations, though the more energetic of these acids decompose it, as well as the mineral acids.

Gelatine Bandage, Traumaticine, Etc.—Dr. Pick has been employing a glue varnish as a protective coating for cases of chronic eczema, psoriasis, etc. It consists simply of a strong solution of gelatine or fine glue painted over the affected parts with a brush and made flexible by a little glycerine rubbed over its surface after it is dry. For the same purpose Prof. Auspitz has proposed a chloroformic ten per cent. solution of gutta percha. Both these substances are transparent and permit the surface to be readily seen. If they should crack or peel they can be easily repaired.

Antimony in Clothing.—The *Centralblatt fur Textil Industrie* records the fact that antimony is to be found in cotton yarn which has been dyed with aniline colors, and remarks that unless great care has been taken in the cleansing of the yarn it is possible for such a quantity to remain as to be injurious to the skin. Experiments made on different classes of yarn produced results varying according to the nature of the dyeing substance. The samples in which hot water acted as a dissolvent showed only a small proportion of antimony, the highest proportion being found 0.014 per cent. The proportions of antimony which were soluble in muriatic acid varied from 0.036 to 0.31 per cent. of the weight of the yarn. Of course, practically speaking, only the portion soluble in water comes under consideration.

Jaborandi in Congestive Chills.—Dr. Thomas Keefe, of Deming, New Mexico, states (*Medical Age*) that he has employed jaborandi with entire success in quite a number of cases of congestive chills. His *modus operandi* is to inject subcutaneously about 29♏ of the fluid extract of jaborandi, which is to be repeated in twenty minutes, if necessary (which is seldom the case). In about fifteen to twenty minutes profuse perspiration sets in, the chill is broken, and the patient rapidly recovers.

Hypodermic Morphia.—Physicians who have frequent occasion to use morphia hypodermically should remember that if kept in solution for any length of time this drug is liable to decomposition. One of the products of such decomposition may be apomorphia, as was recently pointed out by Dr. Jennings in the *Lancet*. In this case violent emesis would be set up, which may account for the phenomenon so frequently noticed and reported of hypodermic injections of morphia being followed by violent vomiting.

Oxygen, it seems, can, after all, be brought to the liquid state under such easy conditions that the experiment is likely to become an ordinary laboratory one in consequence of a recent discovery by M. L. Cailletet. He has found that formene, when slightly condensed and cooled in boiling ethylene under atmospheric pressure, is resolved into an extremely volatile colorless fluid, which, while again passing to the gaseous form, produces cold sufficient to cause the liquefaction of oxygen immediately.

Roosevelt Hospital Formulæ.—Tonics.

Cod Liver Oil Emulsion.

℞. Cod liver oil . . . . ʒ ij.
Glycerine . . . . ʒ j.
Gum arabic, powdered. ʒ j.
Water, s. q . . . . ℥ ss.
M. Dose, ℥ ss.

Cod Liver Oil with Hypophosphites.

℞. Hypophos. lime . . . . gr. x.
Hypophos. soda . . . . gr. v.
Hypophos. potass . . . . gr. v.
Hypophos. iron . . . . . . gr. v.
Dil. phosphoric acid, s.q.
Cod liver oil . . . . ʒ ij.
Glycerine . . . . ʒ j.
Boiling water, s. q . . . . ℥ ss.
M. Dose, ℥ ss.

Arsenical Mixture.

℞. Sol. potass. arsenite . . . ♏ ij.
Comp. infus. gentian . . ʒ ss.
Water, s. q . . . . ʒ j.
M. Dose, ʒ j.

Iron and Arsenic.

℞. Sol. chlorid. arsen., } each, ♏ ij.
Tinct. chlorid. iron, }
Water, s. q. . . . . ʒ j.
M. Dose, ʒ j.

Effervescing Iron.

℞. Cit. iron and quin . . . gr. 5⅝.
Citric acid . . . . gr. 7½.
Water, s. q. . . . . ʒ ij.
M. Label, A. solution. Dose, ʒ ij; mix with ʒ ij of B. solution.

℞. Bicarb. potass . . . . grs. 18¾.
Water, s. q . . . . ʒ ij.
M. Label, B. solution. Dose, ʒ ij; mix with ʒ ij of A solution.

Compound Cod Liver Oil.

℞. Cod liver oil . . . . ʒ ss.
Syr. lactophosph. lime. ♏ xv.
Syr. iodide iron . . . . . . ♏ iv.
Sol. lime, s. q . . . . ʒ j.
M. Dose, ʒ j.

Laxative Iron Mixture.

℞. Sulph. magnesia . . . . . . ʒ ss.
Sulph. iron . . . . gr. ij.
Dil. sulph. acid, s. q.
Comp. tinc. gentian . . . ♏ xv.
Water, s. q . . . . ℥ ss.
M. Dose, ℥ ss.

Child's Tonic.

℞. Ammon. cit. iron . . . . . gr. v.
Sol. arsenite potass . . . ♏ ij.
Syr. orange . . . . ʒ ss.
Water, s. q . . . . ʒ j.
M. Dose, ʒ j. for a child 3 years old.

Quinine, Iron and Arsenic.

℞. Sol. arsenit. potass . . . ♏ iij.
Cit. iron and quinine . . gr. v.
Comp. tinc. gentian, s.q. ʒ ij.
M. Dose, ʒ ij.

Bright's Tonic.

℞. Sulph. strychnine . . . . . gr. 1-32.
Tinct. chlor. iron . . . . . ♏ xv.
Simple syrup . . . . ʒ j.
Water, s. q . . . . ʒ ij.
M. Dose, ʒ ij.

Tincture of Iron.

℞. Tinct. chlor. iron . . . . . ♏ x.
Glycerine . . . . ʒ ss.
Cinnamon water, s. q . . ʒ ij.
M. Dose, ʒ ij.

—*Communicated to the Druggists' Circular.*

Mrs. Winslow's Soothing Syrup.—Dr. S. S. Staufer, of Philadelphia, Pa., thus writes: "While at Long Branch last summer, I did try to find out which one of the three pretty cottages Mrs. Winslow usually occupied when on the beach. That it was not the lower was about as much as I could learn. Subsequently there fell in my hands the following account of the villa: 'These three very pretty houses were erected and supported from the proceeds of the far-famed Mrs. Winslow's Soothing Syrup. They are owned by the Curtis family, of New York, and there are no handsomer houses on the bluff than the fruit of the much-advertised and much-derided potion.'"

RHUS poison is reported as curable very speedily by the application of chloroform on paper or rag.

MR. THOMAS JONES reports in the *Lancet*, August 2, 1884, a successful extirpation of the larynx for epithelioma.

JOHN P. HANKINS, C. S., Brevet Major General, U. S. A., writes in the *American Grocer* regarding canned foods, and the experience of the army therewith, and says he has never known or heard of a case of poisoning by the use of canned goods in the army.

THE *National Druggist* calls attention to some bad effects following the application of iodoform externally, and attributes them to adulteration with picric acid, which it says is largely used for that purpose. The subject is important, as iodoform has grown into extensive use.

DR. A. A. WILLCOX, of Cleveland, Ohio, writes to the "Dental Cosmos" that the severe pain which often accompanies the application of arsenious acid for the destruction of the dental pulp may be almost entirely obviated by the application of a little chloroform on a pellet of cotton before the "nerve-paste" is pplied, allowing it to remain a few seconds, and immediately stopping, thus preventing a rapid evaporation.

PHYSIOLOGICAL AND THERAPEUTIC EFFECT OF PARLADEHYD, by Dujardin-Beaumetz (*Bulletin Thérap.*)—Experiments with aldehyd on animals prove that small doses will cause profound sleep and an apathy of considerable duration, but on account of its great volatility and pungency it cannot be generally used. But paraldehyd has less irritating properties; is more agreeable to take. Sleep is quiet, pleasant and refreshing; lasts 4–8 hours. Especially after three-grain doses, an aldehyd odor is perceived in the air. As an hypnotic, paraldehyd surpasses chloral hydrate and morphine. The awaking is easy, and not followed by headache. As an anodyne it is not equal to either chloral or morphia. In insomnia of morphiniphagism it is by far the best-known hypnotic.

HYDROLEINE, in its greatly-improved composition and reduced price, with the formula for its manufacture, is offered to the Profession by the American agents, W. F. Kidder & Co., of this city. The English and American testimonials sent to the Public are numerous, and are given by the best men in the Profession. It seems to be a most excellent preparation, and is especially worthy of attention at this season.

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COLOR perception is referred by Dr. Swan Burnett to certain centres in the brain. He claims, and with justice, that it is time to do away with the idea of supposing the retina a differentiating organ; he regards its function as that of merely receiving and transmitting luminous vibrations, leaving the process of differentiation to certain regions of the brain.

REVIEWS.

POISONING BY CANNABIS INDICA.—This *brochure* is a "reprint" from the *American Practitioner* for July, 1884. Its author is Dr. A. B. Cook, of Louisville, Ky. It is a report of a case so interesting, that a mere review of it would be unjust, and wholly inadequate. It is therefore presented in full, with the statement that a careful study of it will be not only interesting, but of great practical utility to the reader.

Mr. ——, age twenty-seven (an Englishman), height six feet; well developed; of good education; went in 1874 from England to India, and engaged as a clerk. He returned to England in 1878, and soon after came to the United States. While in India he was bitten by a species of asp called the yomali, from which he, for ten days, suffered acute pains and cramps. During this time opium, in ordinary doses, was prescribed, and from this small beginning the opium habit was contracted. He commenced with an aqueous solution of opium, said to be fifty per cent. stronger than tr. opii; the solution was sometimes alternated with the tr. opii, the largest dose of the latter taken at one time being four ounces. At times he used, instead, gum opium, commencing with three grains; the dose was rapidly increased to sixty grains, which was taken just before eating supper. The largest quantity of the fresh gum opium taken in one day was three drams. He occasionally changed to sulphate of morphia, which he has now used exclusively for several years, this producing neither nausea nor a lock-up of the secretions, while its effects are both more pleasant and soothing. The largest dose of morphia he has taken at one time was twenty-five grains—his daily dose is twenty grains, always taken at one time, usually just before, but occasionally after supper, the effects of which last about twenty-four hours; or for about that length of time he feels, as he expresses it, his "normal level." The morphia has ceased to produce the agreeable sensations it formerly did; instead of the delightful and fascinating mental exaltation, it now causes more of a pure narcotic effect, but the desire to use it still clings to him, For two years after he came to the United States he abandoned the use of morphia; but mental depression, the result of business misfortune, tempted him to resume the old habit.

Occasionally he omits morphia for two days to relieve his system and restore the secretions, and on two occasions, by way of experiment, has substituted extract of Indian hemp. About six months ago he took one and a half drams of the extract without any perceptible effect. He says the extract was old, dry, deteriorated and inert.

On the 22d of May, 1884, about six o'clock P.M., a few minutes before supper, he tried his second experiment by swallowing, at one dose, two drams of the extract of Indian hemp (a genuine article, as the result proved), which quantity he estimated was an equivalent to his daily dose of morphia—twenty grains. Before the evening meal was finished he began to feel a tingling sensation in the muscles, dizziness, some mental excitement accompanied with fearful foreboding—no pleasant hallucinations at any time. After supper he retired to his room, and soon became wild, and at times almost frantic. About an hour after taking the hemp, he called a friend to get an emetic. At this time he says that he experienced the most horrible oppression, beyond the power of words to express. He imagined that a wing, with a spike or claw attachment, was placed in his ear, and that it was constantly being carried further and further into his brain, accompanied with a thousand pulsations, indescriblabe heat, and constant vibrations throughout every nerve and fibre of the system, with a feeling of immediate dissolution. It was during this stage he was restrained by a friend from jumping out of a window.

About one and a half hours after taking the drug he was given a full emetic of mustard, salt and warm water, and then he drank half a gallon of hot coffee, which was soon ejected ; he then took an emetic dose of ipecac. I saw him about eight o'clock ; he was still able to talk when addressed, was wild and delirious, with short intervals of apparent mental lucidity, expression anxious, eyes injected, pupils dilated and insensible to light; pulse 120, feeble, and easily compressed; respiration 10 to 12 per minute, shallow, labored, diaphragmatic, no chest expansion. When aroused he was at times belligerent, but when calmed by gentleness and kindess, and asked why he wanted to fight, he said he thought an enemy was about to attack him. He had horrible feelings; thought he would certainly die, and that no treatment could reach his case. In the stages of excitement he was unconscious of his actions, and in every respect had, when aroused, the appearance of a violently insane man. I at once despatched a messenger for carbonate of ammonia, whiskey and Harris's battery. In the meantime mustard and warm water were administered, and in ten minutes after twenty grains sulphate of zinc with copious draughts of warm water. Emesis was excited by titillating the fauces. In a few minutes a teaspoonful of mustard in a half gallon of warm water was given as fast as he could be induced to swallow it, which was followed by copious vomiting free from any ingesta; after a few minutes' rest a half gallon of warm water was given, which was ejected clear, showing that the stomach was thoroughly evacuated and cleansed. After this the stomach did not eject anything administered. The carbonate of ammonia was given in ten to fifteen-grain doses in mucilage, alternated with one ounce of good whiskey, neither being given at regular intervals, but only as he was aroused by the battery and could be induced to swallow; from half past-eight P.M. to eight next morning he took three drams carbonate of ammonia and fully half a pint of whiskey. During the night he drank considerable strong coffee. By half-past nine P.M. he was completely under the narcotic influence of the hemp; pulse 130 to 140, feeble, thready, and at times scarcely perceptible; heart's action feeble, and giving out that peculiar metallic ringing sound frequently heard in approaching death; pupils dilated and insensible to light; respiration 10 to 12 per minute and abdominal. The thorax during respiration was as immovable as a fixed board. The battery had been commenced about nine P.M. in full intensity of current. One pole was applied to the spine, moving it slowly from the base of the cranium to the lumbar spine; the other was applied alternately to the pectoral muscles, over the region of the heart, around the margin of the ribs and the cartilages of the ribs and sternum, and over the cervical portion of the phrenic nerves, to stimulate all the respiratory muscles. Benefit was soon produced. The patient was partially aroused from his stupor, had lucid intervals, could articulate a few words, and swallow; pulse fell to 100, was stronger and fuller; respiration was increased to 14 and 16 per minute, with moderate chest expansions, but when the battery was omitted for a short time he relapsed into profound stupor, etc. In fact, for about two hours, under the almost constant use of the battery, he was in a state of stupid insensibility, without any muscular action except that caused by the battery. Occasionally he could be aroused to consciousness by the combined use of the battery, violent palpation with the open hand on the sides of the thorax and back, kneading over the ribs with the knuckles, and the application of ice over the spine and heart, applied by rapidly pressing to the skin and raising it up to produce the shock without chilling. When the stupor persisted for an unusual length of time, I passed one pole rapidly over the forehead, face and ears, pressing the sponge to the skin and quickly raising it, this intermittent current seeming more potent than the continuous, the quick succession of shocks being a more powerful stimulant. After one P.M. the same effect would sometimes result from active palpation or rubbing over the ribs with the knuckles.

One peculiarity observed in the case was the firm contraction and resistance of the orbicular muscle when I attempted to raise the upper eyelid to test the condition of the pupil; and when he could talk, he said this delicate manipulation caused severe pain; he dreaded any attempt to raise the lid, but under the stimulus of the battery he could open the eyes without any difficulty. While under the profound influence of the drug, his features were changed, his expression being idiotic.

For about two hours, from eleven P.M. to one A.M., there was a profuse secretion from the Schneiderian membrane, the salivary glands and mucous membrane of the mouth; perspiration for the first three hours was at times free, but at no time profuse. The routine of treatment during the night was the battery used as heretofore stated, alternated, as circumstances indicated, with active palpation, kneading or rubbing over the ribs with the knuckles, ice, carbonate of ammonia, whiskey, coffee, and water when desired. In the early part of the treatment attempts were made, by the aid of two assistants, to walk him over the floor; but it was a ludicrous walk; after three or four courses he fell limp and relaxed to the floor; the third time he fell as soon as raised from the bed.

After one o'clock, A.M., under the stimulus of the battery, he could be more easily aroused and was able to articulate a few words, but soon relapsed into stupor when the treatment was suspended. Respiration and circulation were only sustained by the battery; the other treatment had no apparent effect on these functions. From three o'clock to six o'clock A.M. the improvement was marked; his features were more natural; he could be aroused by shaking or speaking in a sharp or decisive tone; about daylight the rattling of vehicles over the pavement would startle him. When I left him at six o'clock A.M., 23d, his pulse was 72 to 84, and respiration 18 per minute, temperature 98°; he then took coffee and milk punch. I saw him again at eight o'clock; he had slept most of the time, but was easily wakened, pulse reduced to 48, and respiration 12 per minute; the use of the battery for a short time restored the pulse to 78 and respiration to 16 per minute. He was then able to stand up, and he urinated copiously; his kidneys acted freely every two hours until two o'clock, P.M., and during the day had two copious alvine evacuations. Used the battery at ten and twelve o'clock, on finding that the pulse had again declined to 50 and the respiration to 12 per minute; after this it was not necessary to repeat it. During the day he was ordered a milk punch, containing an ounce of whiskey, every three hours—which he pronounced palatable—and coffee between times. At four o'clock and ten o'clock P.M. I found him restored to full consciousness. He felt depressed, and thought a little morphia would make him feel better. The request was not granted. During the night he was restless, and awoke frequently. He arose early on the morning of the 24th, took a portion of morphia, ate breakfast, and returned to his desk. On the 25th he said he had experienced no nausea, had a fair appetite, had no special soreness of the muscles, and had slept well during the night. Thus happily terminated this at one time fatal-looking case.

From my experience in the treatment of poisoning from narcotics, if all the remedies recommended were placed before me, and I was obliged to select and rely on one only, I would unhesitatingly choose the battery. I would rely on it with more confidence in a good result than all others combined; premising, however, the use of emetics or stomach-pump in cases seen before the poison had all been absorbed.

Since the patient's recovery he informs me that he had no conception of time; a few minutes seemed as many weeks or months; that, during the hours he was in a stupor and speechless, he was wholly unconscious, except at intervals, when aroused by the battery to partial consciousness, he had a vague conception that something had happened, and that something was being done for him,

While in India he saw the natives drink an infusion of the hemp called bangh, which they drank for its stimulating effects. When under its influence they would doze and lie in a dreamy state, interrupted with convulsive starts and wild hallucinations, then relapse into a dreamy stupor, in which condition they were unfit for business. The hashish, as used by them, is a paste made of the active principle of the hemp, combined with various aromatics and oils, as butter, honey, cloves, etc.; sometimes stramonium is added. On two or three occasions he used it in sufficient quantity to produce hallucinations. A large element in Hindoo society, he says, use opium in moderate quantity for its stimulating effects, as Americans use tobacco.

HAND-BOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By ARTHUR VAN HARLINGEN, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With two colored plates. Philadelphia: P. Blakiston, Son & Co. 1884. 8vo., pp. 282.

While this work is called a "hand-book," and so passes for a manual when read by the title only, its scope is surprisingly great, and as comprehensive as it is large. It is, indeed, a most excellent volume, and a very valuable guide. It is conveniently arranged in alphabetical order, and is all the more valuable on that account. This arrangement was first adopted, in such volumes, by Tilbury Fox, and has been found to be very popular. The author of this hand-book is well known to the Profession, and especially to dermatologists, and is very competent to fill efficiently the office of teacher and guide. The book is well issued.

ELEVENTH ANNUAL REPORT OF THE SECRETARY OF THE MICHIGAN STATE BOARD OF HEALTH, FOR THE YEAR ENDING SEPTEMBER 30, 1883. Lansing, Mich. 1884. Cloth, pp. 262.

This volume is much smaller than those preceding it. The most valuable portions have been omitted. These are the papers submitted to different Bodies, with the discussions held in regard to them. What is presented is of little if any interest, meteorological data of one State chiefly, with the deductions based upon them.

DIPHTHERIA, CROUP, ETC., OR THE MEMBRANOUS DISEASES, THEIR NATURE, HISTORY, CAUSES AND TREATMENT; WITH A REVIEW OF THE PREVAILING THEORIES AND PRACTICE OF THE MEDICAL PROFESSION. ALSO A DELINEATION OF THE NEW CHLORAL HYDRATE METHOD OF TREATMENT. By C. H. GALLATIN, M.D. New York: H. Vail & Co. 1884. Cloth, pp. 174.

Much of this book is mere compilation. As to the treatment of membranous diseases by the hydrate of chloral, this has been done and is done by many. No one, however, has had such astounding success as that which the author says he has achieved—ten deaths in 500 cases of diphtheria! This is the brief. The Court now asks that the witnesses come forward. When the testimony is in, the case will be given to the jury and the verdict recorded.

PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS. FOR STUDENTS AND PRACTITIONERS. By H. MACNAUGHTON JONES, M.D. New York: D. Appleton & Co. 1884. Cloth, pp. 410.

The author objects to specialism, specialists and specialties. He thinks that the general practitioner should do more, and the specialists, of course, do less. This is the old idea that Sir Benjamin Brodie petted and fondled, and then, in his old and better days, had the good judgment to relinquish. It is a beautiful theory, but the fact is that the work of the general practitioner is now so great, apart from the work of the specialists, that even had he the ability to master specialties (in theory), he would not have the time for so doing; and he could never, of course, have that greatest teacher of all—practical experience.

Non quieta movere; things had best remain as they are and not be disturbed. The present condition is the result of many years of the best judgment of the best men. Specialties are necessities. They must remain. They must be cherished, cultivated, guarded. The general practitioner has his hands full.

The author's book is at best only an introduction to the study of women. It is certainly no "manual of the diseases of women." There is nothing offered in regard to ovarian tumors; nothing in regard to vesico-vaginal fistula; nothing in regard to tumors requiring operative interference. In fact, while the author claims that the general practitioner ought to do more, and the specialists less, he has, in his book, given to the general practitioner only that scope generally accorded to him, and shut him out of the very field for which his book proposes to be a guide. So much for the plan. As for the work, it is very fair so far as it goes, but it goes a very little way. It contains what very many others contain, and does not contain what a modern manual for the diseases of women should contain.

BASKETT'S VISIONS OF FANCY. By N. M. BASKETT, M.D. St. Louis: Chambers & Co. Cloth, pp. 106.

A poetic doctor! The medical profession of this country has so far furnished but two poets—Oliver Wendell Holmes and S. Weir Mitchell: the first has fairly and fully won his laurels; the last may yet do so, though the prospect, it must be said, is not very encouraging. It cannot be declared after looking over this volume that poet number three will come from St. Louis.

The fact is, it is fair to assume that the author is too good a doctor and has spent too much time over Gray and Watson, over the pestle and saddlebags, to have given sufficient study to the subtle charms of the soft iambus or the winsome fascinations of the thrilling spondee.

It is not necessary to say what is the reason for this opinion, further than that his book has been carefully read: a fact which now seems very wonderful.

The author should not waste his precious hours after the *ignis fatuus* of the muses, but go back to his old lover, the charmers in the medical library.

The trochee and the pyrrhic, the dactyl and the amphibrach, the anapæst and the tribrach, these are charming companions for such giddy writers as Campbell, and Byron, and Cooper, and Tennyson, etc., but they will not seek the companionship of the grave toilers over the crucible, the scalpel and the microscope.

One would like to know this author, and to know him would, most likely, be to love him, but his offspring should go to the playroom, and not invade the quiet of the library and the study.

A TEXT-BOOK OF PRACTICAL MEDICINE. DESIGNED FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By ALFRED L. LOOMIS, M.D., LL.D. With 211 Illustrations. New York: William Wood & Co. 1884. Price, $6.00 and $7.00.

One who is thoroughly familiar with the many volumes on "Practice" now before the Profession finds very little difficulty in determining that this work is a very decided addition to them all: an addition not only to those literary merits which are prized by the cultivated student, but also by the active practitioner, who values every work of this kind in direct proportion to the additional clinical resources which it places at his command. Such may be very frankly and positively asserted in regard to this volume.

The day for analytical reviews of current literature has passed, and the Profession now look to the medical Press, in its special relations to this subject, only for the purpose of determining whether any new work is really worthy of purchase, and, if so, for the reasons which have induced such a conclusion. Besides this familiar fact, the review department in medical journals is too limited in extent, and the number of new books demanding the journalist's attention is too great, to render analytical reviews either possible or desirable. So much is said as prefatory to a notice which is, apparently, too brief for a work of this character.

The reasons for advising the purchase of this work are as follows: The author is an old, efficient, cautious and judicious teacher. He is not a compiler, but has the ability and has had the opportunity for giving valuable views and conclusions of his own. The work is not a reduplication of material already before the Profession. It is comprehensive in scope, and yet concise in dealing with the multifarious subjects presented. It is particularly valuable in its diagnostic dapartments, and most especially so in all that relates to physical diagnosis, in the ex-positions of which the author is so philosophical, judicious, lucid and satisfactory.

The pathology is, as a rule, a very fair reflex of modern pathological research.

The treatment manifests nothing of the foolish nihilism so fashionable in the chief medical centres of the present day, and yet is absolutely free from those polypharmacies which, as so many baleful shadows, are cast by the lights of the past upon the field of modern medicine.

The work is lavishly illustrated, and most of the illustrations are original.

The text is bold, in very legible type, printed on good paper, and the volume is well and plainly bound.

These are the reasons for the advice given to the reader to purchase this work.

It is regretted that the author advocates the pernicious, though fashionable opinion, that pneumonia is a specific fever, whose chief manifestation is the lung. Without going into a labored defence of this criticism, it is sufficient to say that it is contrary to the experience of the great mass of practitioners; and more particularly contrary to the experience of country and village practitioners, who, whatever may be their want of experience in regard to some diseases, are singularly fortunate in the opportunities for the clinical study of this and kindred troubles. They, as a rule, are familiar not only with the case, but with the person, and study each case with an assiduity and fidelity rarely seen in other fields of practice. The Collective Investigation Committee of the British Medical Association, after a careful study of 350 cases, rejected, as unsound and fallacious, this fashonable and yet pernicious view in regard to pneumonia.

As to the tubercle bacillus, the author is conservative and guarded in his views, and very properly so. Formad's labors have pricked this bubble, and it behoves all teachers to be careful in their opinions relative to it.

Equally guarded is the author in regard to the etiology of cholera.

The index is excellent, but needs more careful work. In looking up the writer's views in regard to empyema, the index was useless, and the chapter could only be found by a careful examination of the text.

In writing of vaccination, the author confounds Sir William Jenner with Edward Jenner. It is a compliment to Sir William to have his name so impressed upon an author's mind, but the dead have claims as well as the living; *fiat justitia*, etc.

The climate of the Adirondacks is admirable, but, good as it is, it cannot be said to be as reliable as the author loves to believe.

In regard to the influence of climate in pulmonary troubles, the views of the author have undergone a very marvelous and unintelligible change. In his work on the "Diseases of the Respiratory Organs, Heart and Kidneys," page 281, he says that "the climate of Colorado is mild and peculiarly dry, from its elevation; the atmosphere is highly exhilarating and peculiarly healthful. Here flowers grow at the height of eight thousand feet; usually at a much less height vegetation does not flourish. The rainfall for one year was about sixteen inches. In some sections there are but slight variations of temperature throughout the year. The winter days are those of a northern summer, and the summer is but little warmer than winter." In his "Practice of Medicine," page 205, he states that "there is one grave objection to Colorado as a winter refuge—the enormous monthly and also diurnal range of temperature must severely try any invalid. During March, 1880, the thermal range at Denver was eighty-three degrees, and in December, 1876, it amounted to ninety-three degrees; a change in a single month greater than occurs in London in a whole year, and greater than occurs at New York in a whole winter."

His faith in quinine is conspicuous; it is his trump card in the pharmacy pack, and, like the enthusiastic devotee at cards, he evidently advises that, when in doubt, one in therapeutics, as in whist, should play trumps.

But to return to serious comment again, it must be said that this work is one which every physician, and above all every American physician, must admire and value.

The publishers have done entire justice to their portion of the great labor expended upon it.

A Compend of Organic and Medical Chemistry. Including Urinary Analysis and the Examination of Water and Food. By Henry Leffman, M.D., D.D.S. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1884.

A very useful book. It furnishes much of the advice needed by the active practitioner. The scientific significance of the secretions and excretions is unfortunately but little understood by the great Body of physicians. Those who wish to reform and do better will find this work a friend and aid.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. V. Flaccus-Hearth. Washington: Government Printing Office. 4to., pp. 1,055.

A great work in excellent hands. A monument of industry, fidelity and skill. It is being carried forward slowly, it is true, but carefully and efficiently.

BOOKS AND PAMPHLETS RECEIVED.

From Bermingham & Co., N. Y.

Medical Diagnosis. Brown.
Diseases of the Rectum. Wright.
Principles and Practice of Midwifery. Wright.
Manual of Dermatology. Robinson.
Diseases of the Nose. Wagner.

Surgical Delusions. Roberts. P. Blakiston, Son & Co.

Physicians' Call Books, Visiting Lists, etc. Wm. Wood & Co. P. Blakiston, Son & Co. C. B. Leonard.

One Aspect of the Subject. N. C. Board of Medical Examiners.

Jequirity. Shoemaker. Transactions of Medical Society, Penn.

Jequirity. Connor. (Reprint from *Detroit Lancet.*)

Mumps. Connor. (Reprint from *Am. Jour. Med. Sciences.*)

Annals of Surgery. Editors, L. S. Pilcher M.D., Brooklyn, N. Y.; C. B. Keetley, F.R.C.S., London, Eng. Vol. 1, No. 1.

Cases of Interest. Wm. H. Carmalt, M.D., of New Haven. (Proceedings of Connecticut State Medical Society, 1884.)

On Branchial Cysts of the Neck. By N. Senn, M. D., Milwaukee, Wis. (Reprint.) 1884.

Diphtheria Spread by Adults. By A. Jacobi, M.D. (Reprint from *New York Medical Journal.*) 1884.

Address in Ophthalmology, Medical Society of the State of Pennsylvania. By W. S. Little, A.M., M.D., of Philadelphia. May, 1884. (Reprint from its Transactions.)

Annual Report of the Navy for the Year 1883. In two volumes. Washington, D. C. 1883.

MISCELLANEOUS.

A Twin Birth with Membranes Intact.—The Eastern journals have lately contained accounts of cases where parturition has been completed without the rupture of the membranes. The following case occurred in Solano County: I was called about midnight to attend Mrs. S. Her husband bade me hurry, as the baby was born. I found her on her knees on the carpet, the baby crying lustily. She informed me that, not feeling well, she had risen, and was pacing the floor. As she had felt no pain, labor was entirely unexpected. Suddenly she had a furious pain, and not being able to step or stand she dropped to the floor, and before her first and only pain ceased the babe was born. While I was tying the cord, she quietly remarked that the after-birth had come. Obeying an impulse to see that after-birth, I moved aside a fold of night-dress, and instead of an after-birth I found a second infant, the membranes of which were intact. Both children are alive to-day. The odd features of the case are, that for the first child there was but one pain, but that a furious one; the birth of the second being without pain, and with unruptured membranes.—*A. M. Pratt, M.D., Oakland, Cal.*

Mr. Lawson Tait on Pneumonotomy.—Mr. Lawson Tait has written to the *British Medical Journal* the following letter, which assuredly most persons will agree is an eminently sensible view of the case: "Sir: I think the facts that the idea of the application of surgery to the diseases of the lungs occurred to Sir Spencer Wells forty years ago, and to others before him; that all of us engaged in the surgery of the abdomen must have, as I have often done, restlessly discussed the possibility of passing above the diaphragm, and yet that nothing has been done, form a sufficiently trenchant statement of the case. Nothing has been done beyond the drainage of old suppurating pleurisies, and possibly a few gangrenous vomicæ; and I do not think it is likely that we shall go much beyond this, in spite of Dr. Biondi's experiments. I have had several cases of thoracic disease sent to me, with the tempting request that I should attempt an operation; but I have never seen my way to the effort, they were all so clearly cases of malignant disease. I cannot imagine that any man in his senses would attempt to remove a human lung with a tumor in it. It would not be resection of parts of four ribs which would permit the removal of a tumor sufficiently large to admit of accurate diagnosis; and I cannot observe, in the literature just at the moment accessible, that any other kinds of tumors occur in the lung, save those of hydatid origin, and those of a cancerous nature. If the tumor were hydatid, the removal of the lung would be unnecessary. If the tumor proved to be an aneurism, the disaster would be awful. For phthisis, I imagine removal of the lung would be a still more absurd proposal. If one lung were riddled with vomicæ, the chances of the other lung being affected would amount to certainty. If there were only one large cavity, not of tubercular origin, or very chronic in its history, drainage would suffice. The facility with which Dr. Biondi has removed lungs, and parts of lungs, from dogs, guinea-pigs, cats, fowls, pigeons and sheep, and the absence of mortality from such operations, is likely to be a snare rather than a help. It does not need saying that the removal of a healthy lung, collapsed by the introduction of air into the pleura, would be a very easy matter, and very different from the removal of a diseased and adherent organ. There would be as much difference as there is between normal ovariotomy and removal of a pyosalpinx. It is perfectly clear that these animals, with their deep and narrow chests, differ very much from us, with our wide and shallow cavities, in their powers of enduring the accident of acute pneumothorax; certainly they would differ from us immensely in the facility with which pneumonotomy may be performed. Their chests are built for the endurance of the special efforts of great speed, and we have lost those physical characters; and I venture to say that, if acute pneumothorax were suddenly inflicted upon sixty-three healthy adult human beings, death would be the immediate result in the great majority of the experiments. The analogy between nephrectomy and pneumonotomy, of which Sir Spencer Wells makes use, is also a misleading one; for the functions of the kidney may be interfered with to a considerable extent, and even entirely for a considerable period, without apparent trouble, but we have no proof that this is probable in the case of the lung. The only experiment I ever saw in this direction, the result of an accident, resulted in immediate death. I do not think the severest critic can say of me that I have any tendency to obstruct surgical progress; but it seems to me that neither *a priori* reasoning nor clinical experience will lead us further than we have got in pulmonary surgery—drainage, with the useful addition of costal resection in old standing empyema; and I am quite sure that we may regard Dr. Bioni's experiments as the outcome of the work of an enthusiast, misleading in their tendency, and dangerous for any practicable application which might be made of them."

A REMARKABLE WAR RELIC: HAIR GROWING ON A BULLET THAT PASSED THROUGH A MAN'S BRAIN.—PHILADELPHIA, Oct. 7.—That hair grows upon the human body after death has been a theory held by many prominent physicians, but discredited by the Profession generally. Experts who follow the melancholy pursuit of laying out and dressing the dead hold in some contempt this professional opinion, and declare that cases of hair growth after death are frequent, and often so palpable that even a novice would not fail to detect them. A very curious relic in the possession of a Pottsville book-keeper, a veteran of the late war, was examined by several Philadelphia doctors recently, and appears to furnish conclusive proof that death does not always put an end to the growth of hair upon portions of the human body, even after the lapse of many years. Henry Matthews was a good soldier during the war, and was at the front in some of the hottest engagements of the great struggle. As a member of Company H, of the Forty-eighth Pennsylvania Volunteers, he was in the fight at Cold Harbor. On May 26, 1864, he was struck down by a bullet, which entered the back part of the head. The ball passed through a portion of the brain, and was taken out above the forehead. The operation was performed by Dr. W. R. D. Blackwood, then surgeon-general of the division, who now lives at No. 246 North Twentieth-street, in this city. During the progress of the operation a mass of the brain, weighing about an ounce and a half, and as large as an egg, escaped. The bullet, to which some of the brain matter and a portion of the scalp adhered, was preserved, and upon his departure from the hospital was given to the wounded man, who, to the astonishment of the surgeon, recovered. He has suffered no mental inconvenience, and now occupies a responsible clerical position in the Reading Railroad office at Pottsville. When the bullet was presented to him 20 years ago at the hospital door the brain matter and the little patch of scalp had dried up, but a few short hairs could be seen sticking out from the latter. The bullet had been considerably flattened, and somewhat resembled in shape a miniature clam shell. As time elapsed Mr. Matthews, who greatly prized this relic, noticed an astonishing fact. The hairs, which at first were scarcely prominent enough to be noticed, were growing. Other hairs grew out also until a thick black bunch appeared at the back end of the bullet. At first his friends refused to credit the story, although he showed the precious relic in proof. Once or twice he cut off the ends of the growing hair. It continued to grow. About a year ago Mr. Matthews came to Philadelphia and sought out Dr. Blackwood, to whom he exhibited the bullet with its bunch of apparently healthy hair. The surgeon, in the presence of professional witnesses, cut off an inch of the hair, measured that which remained, boxed and sealed up the bullet, and placed it in trusty hands for safe keeping. Recently the package was opened. A careful measurement showed that the hair had grown over an inch since the ball had been last seen, and Dr. Blackwood said recently: "The fact is beyond dispute. Apparently without nutrition, upon the dried-up particle of scalp and brain, this hair had been and is now growing as surely, if not so luxuriantly, as it grew upon Matthew's head when he was shot. I recollect the wound, the operation, and the presentation of the relic to the injured man after his remarkable recovery. It seems to me to settle beyond doubt that hair can and does grow upon dead bodies. The fact has steadily been denied by medical journals and medical men generally, but the men who have charge of the medical college 'subjects,' those mysterious fellows who have every opportunity to know, nearly all declare that they continually witness the proof of it." That hair can be transplanted and will contract organic adhesion is a recognized fact and the *American Cyclopedia* says: "Hairs will grow after death, and live for centuries." But no such remarkable instance as the hair growing on Mr. Matthew's bullet is on record.

DURING the year 1883 the sun in London shone for only 974 hours out of a possible 4,456 hours, which is an average of two hours and forty minutes per day. At Kew the total of sunshine was 1,484 hours, and the daily average four hours three minutes. At Hastings the total was 1,825 hours, and the average five hours. London smoke is charged with the loss shown in the returns for London.

UNUSUAL WEIGHT OF FŒTUS AT FULL TERM. By EDWARD GORDON, M.R.C.S., L.S.A., Stockport, Eng.—On March 16th, a lady, aged 35, primipara, tall, healthy and well built, gave birth to a well-formed female child, weighing eighteen pounds and measuring twenty-six inches in length. Delivery was effected by forceps, and presented no unusual difficulty till after the head was born, when the shoulders wedged between the coccyx and the pubic arch; by bringing out each arm they were released. The pelvis now lodged in the same place as the shoulders, and was only liberated after a severe struggle by compressing the iliac bones of the fœtus. The passage, even of the thorax and abdomen, was effected only by great effort. There was just a twitching of the nose and lips of the child after birth. The placenta was expelled in ten minutes afterwards. A binder was applied and one drachm of ergot administered. The pulse was 80. The patient seemed exhausted, but fully conscious. Artificial respiration, warm bath, brandy, etc., failed to resuscitate the child, although persevered in for half an hour. Unfortunately, the patient, on asking if the child were dead, was answered in the affirmative by an attendant, and at once threw up her hand, exclaiming, "Then I shall die too." She died two hours and a half after the extraction of the fœtus. The immediate cause of death seemed to be syncope from shock by the news of the death of the child after such a severe and laborious extraction. Perhaps the extraordinary size of the child may be, in some measure, accounted for by the inordinate appetite of the mother. She herself informed me, during the labor, that she had often eaten a pound of raw meat at a time, took little or no exercise during the last six weeks, often lying in bed till eleven o'clock, and again lying down at three in the afternoon till six. I am informed by a relative that on one occasion she ate three pounds of pork at one meal during the latter part of her pregnancy. The lady had made a note of the date since the last menses were seen, which made the fœtus exactly nine months on March 16th. P. S.—The weight and length were given me by the father, an intelligent business man.

THE LEVER TOURNIQUET.—IN 1878 Mr. Richard Davy, of London, England, made a proposition to control the circulation of the limb before amputation at the hip-joint by a rod passed up the rectum and, with the perinæum as a fulcrum and the external part of the rod as a handle, making pressure up the common iliac trunk by pressing it against subjacent tissues. The method had been adopted in some twenty-two reported cases, with good results. Recently Dr. Weir reported to the New York Practitioners' Society the twenty-third case. The hæmorrhage did not amount to more than five teaspoonfuls. The exarticulation was necessitated on account of tumor of the thigh. In seven of the cases reported there had been only a total of seven ounces of blood lost. One accident had happened to Mr. Davy himself. Twenty-four hours after one of the amputations by this method peritonitis set in, due to perforation of the rectum by the rod. With regard to operative methods, the plan of Furneaux Jordan was discussed, he having suggested that one should cut low down and simply dissect the bone out of its bed, leaving as great a length of soft parts as possible. Mortality is thereby diminished, and the resulting stump is good. In the region compressed by the rod is the ureter, and Dr. Weir thought that instead of following Dr. Sands' plan of testing the urine obtained from one kidney, by compressing the ureter of the other with a hand in the rectum, the rectal rod might be used for the same purpose, only using one whose end had been flattened and broadened.—*Weekly Review.*

PHYSICIANS ACCOUNTS.—Judge Ashman, of the Orphans' Court (December term), in giving an opinion upon a medical account, declared that "if the books are so kept as to cover a daily entry of each visit with the name of each patient, a list of the medicines furnished, and the price which custom has fixed for the particular service, such a record will comprise all the incidents of certainty of time, person, labor and value, and each entry will be complete in itself." He also declared that the ordinary diary or visiting list, in which the records are kept with signs or hieroglyphics, instead of amounts, "could serve at best only as memoranda from which to make more formal charges;" such accounts could not serve as original entries in order to prove services rendered, in a court of law. It is also well to remind physicians that, in making out accounts, a visit *per se* cannot be considered as a proper ground for a change; the account should be made out for services rendered at the request of the patient, or the person responsible for the account.—*Philadelphia Times.*

Remarkable Fecundity.—Dr. F. P. Atkinson writes to the *British Medical Journal* as follows: "I have just come across a somewhat remarkable, well-authenticated instance of fecundity. The lady, who was of good position, married at sixteen years of age and died at sixty-four. She had thirty-nine children (all by the same husband, whom she survived), thirty-two daughters and seven sons, and they were all single births except two, which were twins. An interesting point is that all the children lived to attain their majority.—*Obstetrical Gazette.*

The Transmissibility of Hydrophobia from Man to Man.—In December it was stated, in the *Gazzetta degli Ospitali*, that Dr. J. Huszar, of Pesth, whilst dissecting the body of a man that died of hydrophobia, slightly cut his finger. Within a few days hydrophobia appeared, and quickly proved fatal. In reference to this case Professor Lussana, of Padua, writes somewhat at length, remarking that if it be true it is of the gravest importance. It had, he says, been looked upon as a settled point that the disease was not by any means whatever transmissible from man to man, though it has occasionally been communicated from man to some species of the lower animals, especially dogs. The experience of various surgeons, from the time of Andry in 1780, is then brought forward to show that wounds received in dissecting bodies of persons dead of hydrophobia were never followed by the disease. Cases in which such infection is alleged to have taken place are examined and found to be equivocal. It may be mentioned that Drs. Brigidi and A. Bianchi, out of more than a dozen attempts (*Lo Sperimentale*, August, 1883) to communicate hydrophobia from the human subject to the lower animals, succeeded only once. Though many of the other cases proved fatal, neither the symptoms nor the *post-mortem* appearances could properly be regarded as belonging to the disease in question, and septicæmia was held to be the cause of death.

MEDICAL NEWS.

Medical Society of Virginia.—This society held its fifth annual session at Rawley Springs, Va., on Sept. 9, 10 and 11, and elected the following officers for the ensuing year: President—Dr. Samuel K. Jackson, of Norfolk, Va. Vice-Presidents—Dr. Jesse Ewell, Sr., of Hickory Grove, Prince William County; Dr. Benjamin Blackford, of Lynchburg; Dr. R. I. Hicks, of Casanova, Fauquier County. Recording Secretary—Dr. Landon B. Edwards, of Richmond. Corresponding Secretary—Dr. Hugh M. Taylor, of Richmond. Treasurer—Dr. R. T. Stover, of Richmond. State Board of Medical Examiners: First District—Drs. S. W. Carmichael, of Fredericksburg; O. B. Tinney, of Onancock; W. W. Douglas, of Middlesex County. Second District—Drs. Thomas B. Ward, of Norfolk; L. Lankford, of Bowers, Southhampton County; Jesse H. Peek, of Hampton. Third District—Drs. R. A. Lewis, of Richmond; Charles R. Cullen, of Richmond; O. A. Crenshaw, of Richmond. Fourth District—Drs. William J. Harris, of Nottoway; Hugh Stockdell, of Petersburg; J. Herbert Claiborne, of Petersburg. Fifth District—Drs. W. L. Robinson, of Danville; T. B. Greer, of Rocky Mount; and Rawley W. Martin, of Chatham. Sixth District—Drs. Harvey Black, of Blacksburg; H. Gray Latham, of Lynchburg; and Wiley, of Salem, Roanoke County, Va. Seventh District—Drs. William P. McGuire, of Winchester, Va.; J. H. Neff, of

Harrisonburg; Hugh T. Nelson, of Charlottesville. Eighth District—Drs. C. C. Conway, of Rapid Ann Station; Bedford Brown, of Alexandria; and Alexander Harris, of Jeffersonton. Ninth District—Drs. S. W. Dickinson, of Marion, Smyth County; Robert J. Preston, of Abingdon; and R. D. Huffard, of Chatham Hill. Tenth District—Drs. Henry M. Pattison, of Monterey; Z. C. Walker, of Gishe's Mill; and — Merriwether.

American Academy of Medicine.—Baltimore, Oct. 29.—The second day's session of the annual meeting of the American Academy of Medicine opened in Hopkins Hall, Dr. Lee presiding. The Committee on Nominations submitted the following list of officers, who were elected by acclamation: President—Albert L. Gihon, United States Navy. Vice-Presidents—R. Stansbury Sutton, of Pittsburg, Penn.; James A. Steward, of Baltimore, Md.; William Elmer, of Bridgeton, N. J., and James Cheston Morris, of Philadelphia, Penn. Secretary and Treasurer—Richard J. Dunglison, of Philadelphia, Penn.; and Charles McIntyre, Jr., of Easton, Penn. Assistant—Dr. Oliver Wendell Holmes, M.D., of Boston, and Major George M. Steernberg, M.D., of the United States Army, were elected honorary members. Following the election interesting and instructive papers were read by physicians from New York, Philadelphia, Baltimore and other cities.

Medical Life Peers.—An amendment has been proposed to the British Medical Act Amendment Bill, to the effect that two physicians of over twenty years' standing be made life peers, and act as lord justices of appeal in medico-legal trials. Some such measure has been frequently urged by members of the Profession in England, and if carried out will considerably strengthen the hands of justice.

Hydrophobia Inoculation Sustained.—The Commission appointed to consider the question of the prevention of hydrophobia by inoculation as advanced by Pasteur has reported in favor of the correctness of the distinguished scientist's theory.

Sir Erasmus Wilson added to his former bequest of five thousand pounds to the English College of Surgeons a bequest of one hundred and eighty thousand pounds. This represents about seven thousand dollars a year, and puts the college in possession of a grand opportunity for distinguishing itself and benefiting surgery and the Public.

Japanese Chemicals.—The Japanese appear to be determined to render themselves, as far as possible, independent of foreign countries. They have, says the *Pharmaceutical Journal*, established in Tokio a factory for the production of pharmaceutical chemicals on a large scale. A company with a capital of £40,000 has been formed for this purpose. Of this amount the Government has contributed one-half free of interest for twenty years, beside making a free grant of land and erecting the necessary buildings. A similar company is taking up the utilization of the waste sake from the native breweries in the manufacture of alcohol, and the manufacture of bleaching powder on a large scale has been commenced.

The Order of the Legion of Honor has been conferred on Dr. Robert Koch by the French people.

The Queen of England has appointed Sir Prescott Gardner Hewitt, Bart., F.R.S., to be one of her Majesty's Sergeant-Surgeons in Ordinary in place of the late Mr. Cæsar Hawkins.

Dr. William Osler, of Montreal, Canada, has been elected Professor of Clinical Medicine in the medical department of the University of Pennsylvania. He takes the place of Dr. William Pepper, transferred to the professorship of the Theory and Practice of Medicine. Dr. Osler is a distinguished physician, lately connected with the McGill University at Montreal, and now President of the Canadian Medical Society.

Prof. E. Jæger, the oculist, died at the age of sixty-six years. Since 1857 he has been ophthalmologist to the great Vienna Hospital. His writings on diseases of the eye and his test types are universaly known by all interested in the study of the eyes.

Dr. J. Collis Brown, lately dead, belonged to the medical staff of the British Army, and devised the well-known preparation "chlorodyne," for the cure of diarrhœa and similar diseases prevalent in the tropical possessions of England. Although the remedy was largely imitated and counterfeited, it is said to have secured great wealth for its inventor.

Medical Photography.—Dr. A. L. Cory says: "As to the use of photographic outfits in medicine, I would say I find mine a great benefit. I have used it in cases of skin diseases, small-pox, spina befida, etc., and can see now where I should have kept photos of many cases if I had possessed it before. While in charge of Lake Health Department I took frequent copies of small pox cases. It is so little trouble to keep the plate-holder filled and the camera in one corner of the consultation room. A photo of any case can be had at a minute's notice, the plate to be developed when convenient. I frequently take mine in a buggy when called to a case I think may be interesting, and use it if opportunity offers. Nothing that I know of offers us so easy and accurate a method of recording interesting cases."

Fumigation Curiosities.—At St. Remy they have a curious method of fumigating. People who arrive by way of Tarascon are stopped at the entrance of the city and are obliged to undergo fumigation at the slaughter house, where the porter of the establishment has the direction of the operation. When he is absent his daughter supplies his place. As she does not know how to read or write, her father directed her to take a butcher's stamp and impress it on a paper to serve as a certificate for those who had been fumigated. The young girl the other day followed the directions of her father to the letter, but as she did not know the difference between the stamps, she took one that was used for marking pigs, and which bore this inscription, "Cochon;" that is to say, Hog. Accordingly, the Arlesians arrived at St. Remy with a paper bearing this word in large letters, "Hog!" At Castres they not only fumigate you, but force you to pay 3f. for the operation.

Patent Medicines.—The late meeting of the American Pharmaceutical Association appointed a committee to devise a plan for compelling manufacturers of patent medicines to publish the formulas of their preparations.

CLIMATES AND CATS.—There is not a single cat within the limits of the town of Leadville, Colorado. Cats have been imported there by the hundred, and in all varieties of color and size, but not one has ever survived the second week of residence. However, as there are no rats and mice in Leadville, there is no real need of cats, and it makes little difference whether they live or die. The thin atmosphere at that altitude (10,200) is as fatal to the vermin as to their foe, and the inhabitants are thus mercifully spared the inflictions of both.—*Chicago Inter-Ocean.*

LISTER.—According to Cheyne's surgery, Mr. Lister has gone back to carbolic acid.

A NEW VEHICLE.—The announcement of a Southern medical college says that after the first of October the janitor will meet all the trains with a badge on his hat.

DR. "GRAVEYARD" WALKER.—Dr. George Alfred Walker, recently known as "Graveyard" Walker, who died at his residence, Ynsyfaig, Barmouth, North Wales, after a brief illness, was born at Nottingham in 1807. He became a licentiate of the Society of Apothecaries in 1829, and a member of the Royal College of Surgeons in 1831. He studied for a lengthened period at the Aldersgate Street School and at St. Bartholomew's Hospital, completing his professional education in Paris. Early in life he was deeply impressed by the terrible upturnings of human remains in graveyards which he had seen in various parts of the country. For many years he resolutely waged a crusade against intramural interments, which ultimately brought about the passing of the law forbidding burials in church vaults, and which led to the construction of public cemeteries. In 1847 he gained possession of the notorious Enon Chapel, in London, from which he exhumed several thousand bodies in various stages of decay, and had them entombed in a monster grave in Norwood Cemetery. He was the author of several works on sanitary reform and the graveyard question, and wrote a number of treatises on the skin, ulcers, gout, rheumatism, sciatica and indigestion, which laid the foundation of a new era in the treatment of disease.

DR. SCOTT (*St. Louis Courier of Medicine*) relates the case of a native of Missouri who had not been wet all over since 1863. The doctor, being astonished at this fact, made inquiries respecting other residents of the same State. He found that not a third of the population bathed regularly.

ALL nursing bottles are forbidden at the Hôpital Maternité, Paris. The children are fed either with a spoon or a glass.

QUININE.—The price of quinine is very low ; as quoted in a late number of the *Druggists' Circular*, it is given for the American sulphate one dollar and ten cents per ounce. Among the causes of this state of things are the development of large plantations of cinchona trees, and the overproduction of the drug from the bark.

PEPSIN.—Mr. H. Biroth, at the late meeting of the A. P. A., exhibited several bottles of pepsin put up in 1853 by Eben Owen, of Chautaqua Co., N. Y. In an accompanying circular he describes its origin, its nature, and the method of taking it so as to digest food.

Dr. Fleetwood Churchill, F.K.Q.C.P., died on September 6th, at his residence in London, of heart disease.

The West Virginia and Kentucky Epidemic, said to be something like malignant dysentery, has up to this date, November 28th, destroyed several hundred lives. Cannot some of the subscribers give the cause, treatment and results?

The N. Y. Society for the Relief of Widows and Orphans of Medical Men had its annual meeting November 26th, 1884. Dr. S. S. Purple was elected president, and Dr. John H. Hinton, treasurer. Expenses of last year, $47.85. Receipts, $50,016.33. Paid to widows, $4,252.50; invested, $37,000. Total assets, $143,447.93.

Lancaster Crematorium Dedicated with Religious Services. —Lancaster, Penn.—The Lancaster Crematorium, built by the Lancaster Cremation and Funeral Reform Society, was dedicated November 25 with appropriate religious services. After the dedication, the fires were started, and the body of Mrs. Christiana Beseler, of No. 101 Greene street, Jersey City, N. J., was reduced to ashes. The crematorium is the second establishment of this kind in the United States, and the only one now open to the general public.

Obituary.—Dr. Harvey L. Byrd died at Baltimore, November 29th, at an advanced age. He was a Professor in the Medical College of Mobile at the breaking out of hostilities in 1861, when he joined the Confederate army. After the war he went to Baltimore, and was one of the originators of the College of Physicians and Surgeons, and of the Baltimore Medical College.

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EDITORIALS.

Evolution Among the Clergy.—The Presbyterian Synod of South Carolina, at Greenville, has been recently engaged in the discussion of the Darwinian theory of evolution. The issue arose from the fact that Dr. Woodrow, a Professor in the Columbia Theological Seminary, with the avowed purpose of fortifying the young ministers in scientific knowledge, had set forth the theory of evolution in a lecture, expressing his own belief in it in a modified form, and declaring it not inconsistent with Scriptural teaching. The discussion of Dr. Woodrow's position was warm and spirited, most of the leading Divines of the Synod participating. The settlement of the question was reached by the adoption of the following resolution: "Resolved, That in the opinion of the Synod the teachings of evolution in the Theological Seminary at Columbia, except in a purely expository manner, with no intention of inculcating its truth, is hereby disapproved."

At the recent Tercentenary of the Edinburgh University, Professor Virchow presented his views on Darwin and evolution. He said: "I never was hostile to Darwin, and never have said that Darwinism was a scientific impossibility.

But at that time when I pronounced my opinion on Darwinism at the Association of German Naturalists, at Munich, I was convinced (and still am) that the development which it had taken in Germany was extreme and arbitrary. Allow me to state to you the reasons on which I founded my opinion. First, Darwinism was interpreted in Germany as including the question of the first origin of life; not merely its manner of propagation. Whoever investigates the subject of development comes upon the question of the creation of life. This was not a new question. It is the old *generatio equivoca*, or epigenesis. Does life arise from a peculiar arrangement of inorganic atoms under certain conditions? We can imagine oxygen, carbon and nitrogen coming together to form albumen, and that out of the albumen there was produced a living cell. All this is possible; but the highest possibility is only a speculation, and cannot be admitted as the basis of a doctrine. In science it is not hypotheses that decide, but facts; we arrive at truth only by investigation and experiment. I need not say that this demand of science for proof, instead of speculation, was long ago made in England. Ever since the time of Bacon it has had a home amongst you. We may concede that *generatio equivoca* is a logical possibility; but it is important for you always to bear in mind the great distinctions between the construction of logical possibilities and their application in practical life. If you try to shape your conduct simply according to logical possibilities, you will often find yourself coming into violent conflict with the stern facts of existence. Let me give you an illustration: In recent times, the fact of the presence of minute organisms giving rise to important processes has been recognized, not only in medicine, but in connection with agriculture and various industries. It was of the utmost importance to determine whether these organisms were originated *de novo* in the decomposing bodies, or were produced by similar pre-existing organisms, and introduced from without. A century ago it was possible to admit the spontaneous generation of micro-organisms, but here sits M. Pasteur, the man who has demonstrated, by means of direct experiment, that, in spite of all logical possibility, all known micro-organisms found in decaying matter are derived from similar ancestors. No man would now be justified in practical life in acting on the possibility of a *generatio equivoca* of micro-organisms. A physician who finds himself in presence of infectious disease among his patients, or an agriculturist whose crops are blighted, or a man engaged in the production of alcohol or sugar by fermentation, must set himself to discover what brings about the changes with which he has to deal; he must see that organisms are there which have been imported from without, and must then inquire from whence they have been derived. The physician who has to combat an epidemic dare not act as if the germ were spontaneously produced in any patient. Such is the difference between logical possibilities and the practical work of daily life. Every teacher of science must lead his students to suppose that each living being that he meets must have had a father and mother, or, at least, one or other of them, and every scientific conclusion maintains that one generation is legitimately descended from another precisely similar. That was one consideration that led me to warn my fellow-countrymen against developing a system out of logical possibilities. At the very time when we were getting free from the chains of former dogma, we seemed to be in danger of forging new ones for ourselves.

The second question concerning Darwinism had regard to the descent of man, whether from apes or other vertebrate animals. Was there anywhere a pro-anthropos? In regard to this question, I thought that the existence of such a precursor of a man was a logical possibility, perhaps a probability. Only I found, to begin with, that it was a purely speculative question; not one raised by any observed phenomenon. No pro-anthropos had ever been discovered; not even a fragment of him. I had myself long been specially occupied in making prehistoric investigation to get near the primitive man. When I began these studies, twenty years ago, there was a general disposition to arrive at this discovery. Everybody who found a skull in a cave, or a bone in the fissure of a rock, thought he had got a bit of him. I wish you specially to notice that the smaller the fragment or skull, the easier it was to make it out to be the skull of the pro-anthropos. It was never thought of where an entire skull was in hand. When the upper part of the cranium alone—the calvarium without the face and the base, as is the case of the Neanderthal skull—was discovered, it was easy, by changing its horizontal position, by elevating either the anterior or posterior part, to give the impression that it had belonged either to a being of a superior or of an inferior race. You can make the experiment with any calvarium. If you make a series of diagrams of skulls, placing them over each other, you may make them appear similar or dissimilar, according as you choose one or another fixed point for bringing them into relation. I should like to impress upon you that every discovery of that kind should be received with caution and scrutiny. In my judgment, no skull hitherto discovered can be regarded as that of a predecessor of man. In the course of the last fifteen years, we have had opportunity to examine skulls of all the various races of mankind—even of the most savage tribes—and among them all no group has been observed differing in its essential characters from the general human type. Hence I must say that an anthropological teacher has not occasion to speak of a pro-anthropos except as a matter of speculation. But speculation in general is unprofitable. As Goethe says:

Ein Kerl der speculirt
Ist wie ein Thier auf oeder Heide
Vom boesen Geist umhergeführt.

[A speculating fellow is like a beast on a barren heath led about by the Evil Spirit.]

The day before I gave the address in Munich to which I have referred, Haeckel had gone so far as to propose to introduce into our schools a new system of religious instruction based upon the doctrine of the Descent of Man; and I think it necessary to guard against the danger of constructing systems of doctrine out of possibilities, and making these the basis of general education. Lastly, I have to refer to the geological aspect of the question. This is the most important aspect of it as treated by Darwin himself; and here we must recognize that the most important advance has been made in consequence of his ideas in our understanding of the progressive development of organs in the different classes of animals. From the earliest period, the organization of man has been regarded as an animal organization; and, therefore, from a zoölogical point of view, the body of a man must be regarded as belonging to the animal kingdom. That I do not wish to deny. This day ten years ago Liebig died. I recall his memory at this moment to repeat one of his memorable sayings: "Natural science is modest." He meant that science should be confined within the limits of observation. Every man who goes beyond that sphere becomes a transcendentalist, and transcendentalism has always been dangerous to science. The learned Virchow might well have added that transcendentalism is especially dangerous to the modern pulpit, and to all who are not adepts in natural science.

EXPERT ALIENISTS.—When Rhinelander, of this city, shot Drake, with an apparent intention to kill him for interfering with his domestic happiness (as alleged), he was, through the influence of a rich family who desired to separate him from a wife "socially beneath him," charged with insanity; there being the hope that the family might be spared the pain of a public trial of their relative for murder, and that the unfortunate scion of a wealthy house might be incarcerated and put away in an asylum.

By the recent laws of this State the case was referred to three commissioners: one doctor and two lawyers. The doctor (Dr. Detmold) and one lawyer reported that the defendant was insane; the other commissioner made a masterly report in the negative. The judge (Smyth) "took the papers." He has just made a long "ruling" that the defendant is sane. He says: "I agree with the learned commissioner *that the expert evidence is of no value in this investigation.* While the physicians called by the people to sustain the allegation of insanity say that the defendant is insane, they differ radically among themselves as to the classification of that alleged insanity. Two say that he has general paresis, one says that he is an imbecile, and another that he suffers from melancholia. He cannot have all these conditions at one and the same time. Insanity, in its initial stages, and in its progressed stages, cannot coexist in the same person. But whatever may be the views of the learned experts, I have searched in vain through all their evidence to find *any convincing proof of any one act of the defendant, during the period embraced in the examination, which itself proved insanity.* Particular instances of foolish and impetuous acts committed at long intervals, some of which being such as any self-willed or impulsive person might under certain circumstances do, cannot prove actual unsoundness of mind, and a general judgment passed to-day upon the quality of an isolated act, committed years ago, is of but little value in determining a question of present sanity.

"There is a singular deficiency of evidence of positive facts indicating insanity, and, as the learned Dr. Detmold says, in his opinion the expert evidence is 'rather weak.' The record before us fully justifies the conclusion of Commissioner Patterson, 'that the defendant is a nervous, impulsive and self-willed person.' These are facts not of observation alone; they fully appear in evidence. His physical peculiarities are also testified to, but they are in many instances explained. Any one reading his cross-examination, which was mainly conducted by the learned and able counsel of his relatives (who, it must be presumed, was in possession of all the material facts relating to the life of the defendant), must be convinced that the defendant has an extraordinary memory, a clear and graphic power of expression, a coherent way of speaking, and good judgment in answering perplexing questions, 'and that he is, for all the purposes of pleading and instructing counsel in the preparation and conduct of his defence, a sane man within the meaning and interest of the law.' And in this present proceeding it is sufficient to put him to his defence, that the fact be established to the satisfaction of the Court that he is capable of rightly understanding his own condition, the nature of the charge against him, and of conducting his defence in a rational manner, and, that fact appearing, he is not insane within the meaning of the law."

In commenting upon this decision, a very influential and masterly "daily paper" of this city declares as follows: "Ever since his election to a judicial office, Recorder Smyth has steadily strengthened his title to the respect of his fellow citizens. Their respect for him will be increased by the reasons he gives for his decision that Rhinelander shall be brought to trial, notwithstanding the report of the commissioners appointed to inquire into his alleged lunacy. Judge Smyth sustains the single lawyer upon the Commission, and overrules the two doctors. His reasoning will be conclusive to all men except specialists in mental disease. Of these he says 'the expert evidence is of no value in this investigation,' and proceeds to point out its inconsistencies and absurdities. The opinion thus expressed of the experts in this case is the opinion which the Public has for some time held concerning many of the witnesses who appear in court to swear that they are experts in mental disease."

One has only to study the public records to be more and more convinced of the shallow and foolish claim of modern alienists, that they are, *par excellence*, the true tribunal for deciding questions involving degrees and classifications of insanity. Their claim is usually a sham; often a failure; and always detrimental to the best interests of the medical profession.

THE NEW FOE (*Times*).—Prehistoric man had to fight for his life with wild beasts. At first he did not hunt tigers and lions to any great extent, for those numerous and enterprising beasts devoted much of their time to hunting him. For a long time it must have been doubtful whether the beasts would exterminate man or man would drive the beasts to the wall—or forest. The success of man in inventing and preserving a monopoly of deadly weapons finally gave him the victory. He conquered and reduced to slavery the horse, the ox and the ass, not to mention lesser animals, and he so greatly reduced the numbers of the larger carnivora and of noxious reptiles, that he has for ages regarded himself as the monarch of creation. Wild animals are now slaughtered, not as a measure of self-defence, but for sport, and it has become necessary in many places to protect wild animals by means of game laws, in order that enough of them may be saved from extermination to afford sport for hunters.

Although lions and tigers and their hungry relatives are no longer formidable, man is threatened by microscopic animals. It has lately been discovered that nearly all the diseases which are most formidable to mankind are the work of animals so small that their existence was for centuries unsuspected. They are more dangerous than the large animals were to prehistoric man. They swarm all around, and attack one in sleep and at the dinner table. In view of these dangers, all can envy the condition of man when he had nothing to fight except the full-grown wild beasts in his front yard. Better far are six lions on the front piazza than sixty millions of bacteria in the water pitcher, for the dangers which one can see and shoot at are infinitely preferable to those which one can neither see nor hit.

It is very evident that all must make persistent effort to reduce the number of microscopic animals to at least the extent to which their predecessors reduced the number of wild beasts. Every man must become the protector of his own household. The cautious man will hereafter never venture to open his door without sweeping the front yard with his microscope to see if the foe is at hand, and no one will venture out of doors without a gun loaded with carbolic acid, and without a microscope worn like a pair of spectacles, ready for instant service. Man will probably have to abandon his present house, as it affords little or no protection against the fierce bacillus, and he will be compelled to live in glass houses surrounded by ditches filled with carbolic acid, and provided with ventilators so contrived as to forbid the passage of the enemy. Governments will doubtless offer rewards for the capture or killing of microbes, and bands of scientific policemen, equipped with powerful breech-loading microscopes, will ceaselessly hunt down the foe.

It is undoubtedly a gigantic task to exterminate all microbes, but after all it is not much more difficult than the task of exterminating noxious animals must have seemed to the sparse and feeble population of the stone age. Though millions of bacteria may occupy a single drop of water, it must be remembered that a single volley of carbolic acid can kill billions of them. If man is fearless and persistent he will conquer the microscopic animals and virtually exterminate them. The time may even come when scientific persons will establish parks in civilized regions for the preservation of microscopic game, and petition for the passage of game laws, making it a misdemeanor to kill a bacillus during the breeding season. Sportsmen will travel thousands of miles in search of game and of rare sport among the bacteria of Central Africa and the Indian jungles. Some scientific Gordon Cumming will describe, in thrilling words, a wild gallop over an African plain in chase of a predatory bacillus; and some scientific Baker will tell us of the midnight hours spent in waiting by the side of a malarious Indian pool for a stray microbe; and of the awful moment when the microbe bounds out of the jungle, and the hunter discovers that his carbolic acid cartridges are wet, and he can defend himself only with his traveling flask.

When man's microscopic foes are finally exterminated, he will probably live to the green old age of several centuries. If all diseases are produced by bacteria, one cannot die after the bacteria are exterminated, and will have to rely solely upon railroad accidents and steamship disasters to rid himself of the burden of life. This is a pleasing prospect, and each one can do something toward making it a reality by waging incessant war against bacteria wherever they may be found.

Report on the Prevention of Epidemic Cholera in America.—Such is the title of a paper which has just been sent to the American Medical Press, and which has also been widely distributed among the Public. It is the offspring of the American Public Health Association, after its conference (in October, 1884) with the State Boards of Health of this country. With such parentage, one would expect " some scion of a noble house," but it is a painful necessity to say that the paper is almost worthless, and that, as a logical result, the historical conference which gave it birth could not have been much better.

As to the dicta relative to the "origin and dissemination of cholera," it is needless to say that they are not only foolish, but false. The facts are that no one can correctly explain the origin and mode of dissemination of cholera. It would have been far more sensible for these Bodies to declare this truth, unwelcome as such an assertion would be, than to pretend that "the origin and mode of dissemination of cholera" were really known and could really be described. Truth under all circumstances is better than untruth. This portion of the official paper is foolish and worthless.

The sections in regard to "local safeguards" and " advice to citizens" are remarkable chiefly for old platitudes and well-known cautions: familiar to all, and worn until threadbare. The Profession are informed that " the poison is subtle;" that " the disease may effect an entrance into the country at some unguarded point;" that " the want of funds would be disastrous;" that "the removal of local unsanitary conditions favorable to the development of cholera is the official work of State and local Boards of Health;" that "where it can be done, sanitary inspectors should be appointed;" that " they should counsel with the local authorities;" that " the work should be vigorously prosecuted," etc., and similar puerilities, that one blushes even to indicate.

The portion of the paper which really deserves attention is that in regard to official inspection abroad. It is as follows:

" In view of the present threatening aspect of Asiatic cholera and the constant danger from other communicable diseases occurring at foreign ports having commercial relations with the United States, we urge upon Congress to provide for the appointment and maintenance at all such foreign ports where cholera, yellow fever, plague, small-pox. or scarlet fever exists (?) or are liable to exist, of medical officers of health, the same being either accredited consuls, or attached to the consulates. The duties of these officers shall be to give notice, by telegraph when practicable, of the existence or the appearance of any of the above-named diseases to some constituted authority in this country; to give notice of the departure of any vessel known or suspected to be infected for any port in the United States; and, whenever requested by the master of any vessel about to load or leave for this country, to inspect thoroughly such vessel in all her parts, and also her cargo, her crew and passengers, to use such cleansing and disinfection as he may deem necessary, and to satisfy himself that all persons about to sail are free from dangerous communicable diseases, are not recently from infected places, and are properly protected from small-pox, giving to her commander a certificate of the inspection, and of all precautionary measures taken.

And it shall be the duty of the central authority in this country promptly to transmit intelligence of the existence of the above-mentioned diseases at foreign ports and places, and of the departure of dangerous vessels for the United States and Canada, to all State and local health authorities in the country which may be interested in the same.

"We further recommend, in case of those foreign ports which have no consular agents of this country or no telegraphic communication with this country, and which are liable to transmit pestilence through commercial intercourse, that one or more medical officers be chosen to visit such ports as often as may be deemed necessary by the central health authority in this country, so as to give trustworthy information of the health and sanitary condition of those places."

THE DOCTOR'S DANGER IN FALSE DIAGNOSIS.—Many believe that a false diagnosis is dangerous only to the patient. This is a great error, as the following impressive and amusive facts very graphically demonstrate:

"The editor of the Nelson County (Ky.) *Record* publishes a pleasant interview he had with Governor Thomas A. Hendricks as they returned from Chicago, in which the Governor told about that sore toe. During the conversation on the cars, Mr. Hendricks was asked about his sore toe, and if it was true that an old country doctor had declared the sore on his foot to be 'only a d—d bile,' after Dr. Yandell and other eminent medical men had pronounced it gangrene. Mr. Hendricks smiled when the subject was mentioned, and said that the old doctor from Shelbyville, Ind., did not use those exact words, but his remark was about the same. On being asked to tell all about the matter, Mr. Hendricks said, in substance:

"'It came about in this manner. I went to —— County, Indiana, to make a speech in the campaign pending. The county in which I was to speak is a Republican stronghold, but the Democrats there are strong in the faith, and are unusually intelligent citizens. The courthouse was filled, and I felt so gratified that I resolved, if it was in me, to make those Democrats, for once in their lives, feel proud of their political faith. I spoke for two hours, and with unusual earnestness. During the delivery of the speech I would occasionally rise on tip-toe, and, having on a tight pair of new shoes, the skin was rubbed off one of my toes. When I ceased speaking, my clothes were wet with perspiration; the train was late; I was unable to reach my home in Indianapolis until a very late hour, and took cold from the exposure. The cold affected my foot, and produced erysipelas. The doctors about Indianapolis were called in; they pronounced it gangrene. Dr. Yandell was the one who informed me *of the doom that speedily awaited me*, and he did it in a very pompous speech, in which he said I might lose a toe, or a foot, or a leg—he did not know exactly how much. In the conversation with him I learned that it was his belief that amputation would be only an experiment; that I had gangrene, and was almost certain to die from it; that there was but little hope that amputation would save me. The next day my old family physician from Shelbyville came up; he is a very firm, dictatorial old fellow. On entering the room, he said: "Let me see that foot."

It was shown to him. He grasped me by the foot, and said: "Umph! Gangrene! No gangrene about that; might be a little erysipelas or a bile; nothing to be scared about." The old fellow was right; I speedly recovered, and am now as well as I ever was in my life. I would not have cared for the mistake made by Mr. Yandell, if he had not gone to Louisville and emptied himself to a *Courier-Journal* reporter about my having gangrene, and how I was lying in bed waiting for death. His talk threw me out of law and politics for over two years, and he caused me great financial loss. It would have paid me to give Yandell $4,000 to keep away.'"

Cannot some of the leading surgeons of the West publish, for the benefit of their brethren of Indiana and Kentucky, the differential diagnosis of erysipelas and gangrene? What say W. W. Dawson, of Cincinnati, Edward Miller, of Louisville, and Joseph Thompson, of Paducah? Mr. Hendricks may have another attack of erysipelas, and it will never do to amputate his leg and send him thus to Washington: both patriotism and pathology cry aloud for his protection.

THE PROFESSIONAL DINNER—FRENCH BILLS OF FARE.—It has always appeared very absurd and ridiculous to every thinking man in this country, that in America, where the French language is not known to hotel or restaurant proprietors, to the waiters or to the boarders (not guests, as they are foolishly termed), the French language, ignored throughout the establishment, should be always conspicuous and omnipresent at the table. It is always to be seen on the bill of fare, or, as it is called, the "*menu.*" At a large professional dinner recently given in Philadelphia, the following very remarkable "*menu*" was distributed:

MENU.

HUITRES
Blue Points. *Haut Sauterne.*

POTAGES.
Bisque de Crabs Neptune. Consomme Royale. *Amontillado Sherry.*

HORS DE ŒUVRES.
Rissoles a la Parisienne. Varies.

POISSON.
Kennebec Saumon, a la Hollandaise.
Pomme de Terre Duchesse—Salade de Coucombres. *Haut Sauterne.*

RELEVES.
Beef a la Mode. Poulet de Grain. *Champagne.*

ENTREES.
Cotelette de Pigeon a la Marechal. Ris de Veau a la Grammont. Boudin a la Richelieu.
Aspic de Homords a la Trianon. *Champagne.*

LEGUMES.
Petits Pois Francais. Haricots Verts. Tomato Farcies. Sorbet a l'Anisette.

ROTIS.
Woodcock. Plover on Toast.
Salade de Laitue. Salade de Cresson. *Bordeau.*

DESSERT.
Pudding aux Fruits. Tutti-Frutti. Gelee au Madere. Petits Fours. Gateaux Assortis.
Fruits. Fromage. *Cafe Noir. Liqueurs.*

Among the *nouveaux riches*, remarkable chiefly for their ignorance and simian expertness of imitation, this absurdity is amusing but pardonable; one would, however, expect better of educated physicians in a medical and cosmopolitan centre of civilization.

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Among the *nouveaux riches*, remarkable chiefly for their ignorance and simian expertness of imitation, this absurdity is amusing but pardonable; one would, however, expect better of educated physicians in a medical and cosmopolitan centre of civilization.

When a successful seller of pelts, or a peddler of rat-traps or of fraudulently-made clothing, reaps a fortune, and seeks to "enter society," through the facile gateway of the metropolitan stomach, one would expect so shallow a device and so transparent a folly as the use of a French bill of fare, or "*menu;*" but ought not people whose position in society, and whose average strength of brain should dictate a better lesson, set a better example to the shallow and ignorant masses? Is not the English or American language good enough for Americans? Are they ashamed of it? The folly indicated is one of which those entitled to the best social position should be heartily ashamed. These should furnish a proper example, and then those less fortunate, the "shoddyites" and the social sycophants, will gladly follow it.

Doctors should not render themselves thus ridiculous; but if they must do so, and use the "*menu,*" this should at least be given in correct French diction, and not in such a manner as would really embarrass the best French scholar. American hotel or restaurant French is not creditable at a Philadelphia professional dinner.

It may be said that this very remarkable "*menu*" was composed by the stupid caterer, but it appeared after "proof" correction in one of the Philadelphia medical journals. That the caterer could not correct his "French" is possible, or probable; but must this be said of the journal editor?

HYDROCHLORATE OF COCOAINE.—Dr. C. S. Merrill, at his college clinic in Albany, N. Y., lectured briefly on the nature and effects of the hydrochlorate of cocoaine, and used it on some of the cases in the presence of the class. The doctor stated that the drug was prepared from the leaves of the cocoa plant, and had been used in the throat clinics of Vienna for about a year—the throat and larynx being brushed with it to produce anæsthesia of those parts for operative work, and that the first knowledge had of its action as a local anæsthetic for the eye was from a paper by Dr. Kollar, of Vienna, read at the Heidelberg Congress of Ophthalmologists on the 15th of September, and that Dr. Kollar had only discovered its peculiar properties two weeks before that meeting.

The doctor took a young lady, who was to be operated on for a closure of the tear passage, and put eight drops of the cocoaine solution into the eye. Ten minutes later the eye was found to be so thoroughly anæsthetized that it could be grasped with forceps and pulled without causing pain. He then did the operation without the patient experiencing any pain. In another case, an old man over 70 years of age, who had long suffered from a severe inflammation of the deeper parts of the eye, was placed on the operating table, and the cocoaine used as in the other case; but it did not produce entire insensibility of the parts, nor did it in another case where there was severe inflammation of the deeper tissues. The doctor concluded from these two cases that where there was such severe inflammation more of the drug should be used and a longer time allowed for its effect to be produced. He stated that he had used it in normal eyes, and sensation had been abolished in from ten to fifteen minutes and returned in about thirty or forty minutes. By using it, Dr. Merrill has been able to do an operation for squint, to remove foreign bodies from the cornea, and, in the case of an abscess in the middle ear, to lance the "drum membrane" without causing pain.

The drug is a rare one, and at present very expensive, what the doctor used costing at the rate of $420 per ounce, or $6,720 per pound. No doubt, as the demand for it increases it will be manufactured in larger quantities and become much cheaper. It is to be hoped that it will be produced in such quantities as to permit of experiments being made with it in other portions of the body, for it will render many of the general surgeon's operations painless.

The Alabama Epidemic.—While all are anxiously dreading the arrival of the cholera from Europe a worse pestilence has suddenly broken out in an Alabama town. Hydrophobia has attacked nearly all the mules and a large proportion of the colored people of the town. No less than thirty negroes were at the last accounts lying ill of hydrophobia, while mad mules are chasing all the *white* people who venture out of doors, and biting them in the most tender parts of their —— garments.

The Alabama epidemic gives new light upon the nature of hydrophobia. Ordinarily a man contracts the disease after being bitten by a rabid animal, but in this case none of thirty sick negroes was bitten. A pig supposed to have died of hydrophobia was eaten by these negroes, and they *immediately* afterward showed all the symptoms of hydrophobia. The disease is thus shown to be communicable by way of the stomach, a fact of which M. Pasteur has hitherto had no knowledge. Then, again, two colonels who were chased by rabid mules were bitten in the trousers' leg. One of them immediately went mad, and the other was saved only by the prompt conduct of his wife, who instantly subjected the bitten trousers to actual cautery by throwing them into the fire. The colonel is still very anxious, though it is the opinion of the local physicians that the application of cautery to the trousers has rendered him perfectly safe against the disease.

Before accepting the Alabama story as true, it would be well to ascertain what the thirty negroes *drank* while eating the alleged pig. As to the two colonels, no inquiry need be made. A "mild attack" of hydrophobia is something entirely new, and it may readily be imagined that its symptoms closely resemble those which sometimes follow a prolonged attendance at a negro camp meeting. By this time all have probably recovered, and have learned what may follow ill-judged indulgence in *pig and other stimulants.*

Doctors, Kings and Queens.—The word having been passed that visitors at the opening ceremony of the International Medical Congress were to be in full dress, all had scarcely time to don the war-paint to be at the Palais de l'Industrie in the Vesterbrogade at 1 o'clock. "The hall is beautifully proportioned and decorated, and upwards of 1,200 visitors had assembled when the Royal Family drove up in eight carriages. The scarlet liveries and the outriders made a fine pageant in the glaring sun, and the President, Prof. Panum, might well feel proud when he opened the Congress from the tribune, addressing the Kings and Queens of Denmark and Greece, who were seated in gilded arm-chairs, serene and stately before him. After the President, Sir James Paget spoke, as President of the preceeding Congress, and he held his own as the first orator in the medical profession. Virchow followed, and then Pasteur received an ovation without parallel. His son is one of the secretaries at the French embassy, and when President Panum addressed the assembly in French, that lively bird *le coq Gaulois* crowed rather loudly for a day or two. The speeches over, a short interval was allowed before commencing any business (Sunday, remember). The Royal Family graciously utilized the time by chatting with the inner circle of visitors. The King of Denmark very pointedly selected Virchow for several minutes' conversation, then chatted very jovially with Sir William MacCormac, passing on to Volkmann with more stateliness. His Majesty seemed to have bethought himself that the hilarious *bonhommie* of a prince of good fellows might almost be too contagious on such a grand occasion. Pasteur seemed to have the monopoly of the conversation and charms of the Queen of Greece; but the intimate *tete-a-tete* which seemed to have no ending was that of the Queen of Denmark and Sir James Paget. Her Majesty seemed as if she would not part with the distinguished baronet."

Cholera Investigations.—In the *Journal of the American Medical Association* the following amusing editorial statements are made:

"Cholera Investigations.—A recent report of the French Commission for investigating the nature of cholera in Marseilles, shows an entire failure to produce cholera in rabbits or other animals by a great variety of experiments with the comma-bacilli, both as found in the intestines of cholera patients and by cultivation, and *consequently it affirms the non-contagiousness of that disease.*

"The report describes a peculiar condition of many of the blood-corpuscles, which the *Commission regard as the essential pathological condition in epidemic cholera.*"

Now it is true, as was stated in Gaillard's Journal, the Commission found that cholera was not propagated by the comma-bacillus, but neither has that Body nor any other authority so stultified itself as to declare, because cholera is not propagated in *one* of the ways claimed, that it is therefore non-contagious.

As to the crenation of the blood corpuscles, this condition (which the editor calls "a peculiar condition") has been observed for over forty years. It is seen in *all* forms of cholera, and no one has ever been so foolish as to claim that it was "the essential pathological condition in epidemic cholera." In *all* serous hæmorrhages the red corpuscles become crenated, and the reason for this result is too simple to require explanation; it certainly bears no specific or essential relation to cholera.

A Hint to Presiding Officers.—The chairman or president of medical meetings is often at a loss to say something courteous and polite after each speech or address, but is unable to do so with strict justice and veracity. All thus exposed to this difficulty can read the following with great advantage:

Science, taking a comparative view of the characters of the English and American associations for the advancement of science, both held this year on this side the Atlantic, says, among other interesting observations, that in the matter of paying compliments and moving thanks in an easy and graceful manner our English cousins have the advantage of us. It is the almost universal custom for the chairman of the Section to thank the reader of a paper, and often in elaborate terms. This consumes a good deal of time, and it is a question whether such wholesale compliment is desirable. It was observed, however, that the distinguished and genial presiding officer of one of the Sections made use of two quite different formulæ for expressing his appreciation of the merits of the paper: in one case hoping "that the Section would join him in thanking Professor —— for his interesting and important communication upon this subject;" and in another, "that the Section would join him in thanking Professor —— for his communication upon this interesting and important subject."

CHOLERA.—Those who really believe that they know *something* about cholera (and many of our health Boards and health officers and sanitary associations are laboring under such a delusion) will read the following official facts with profit, if not with pleasure: "Consul F. H. Mason, in his letter dated Marseilles, France, August 20, says: 'I have long since ceased to accept or dispute any one's theory or theories about the nature of the cholera germ or its methods of transmission; but the facts are that various ships which have touched here, stayed in the harbor several days and then continued their voyage, have been stricken with cholera before reaching their port of final destination. This result has happened even in cases of vessels which did not permit any member of their crew to land, and which took on board here neither water nor fresh provisions. Of course, the theorists would all argue that under such circumstances the contagion could not be transmitted, since it is not carried in the air nor inhaled. But there are the facts. Ships upon which the most careful inspection failed to detect any sign or trace of disease have carried the cholera to sea with them and developed it during the voyage.'"

The French and Italian epidemics have taught not one valuable lesson. What will the Paris lesson be?

CHEAP JOURNALS.—Dr. Leartus Connor, in his address before the Association of Medical Editors, in May last, said that those who bought cheap journals "received about what they paid for;" but this is an error. Those who buy cheap journals get far less than the amount of matter to which they are entitled if these cheap journals furnished, in proportion to the price asked for them, the amount of material given by large journals.

Many cheap monthly journals give 16 ordinary octavo pages per month, or 192 pages a year, for $1; this is at the rate of about half a cent for each page. This JOURNAL furnishes 120 royal octavo pages with each issue, or 1,440 pages a year. If half a cent per page were asked for this matter, the subscription price would be $7.20 a year. The charge is only $5; or a little over one-third of a cent per page.

Something for Physicians' Use Among their Patients.—It often happens that a physician is detained while making a professional "call," and finds it difficult to expend his time equably and profitably. To all such brethren it is suggested that the following might be placed in their bag or book, and read incidentally to the family: The Russian death-rate is the highest in Europe, and is attributed to the paucity of medical men in that country, combined with the habits of the rural population. Excepting the two capitals, where there are many German physicians, it is stated that there is no district in the empire sufficiently supplied with doctors. According to the latest returns, the average duration of life in Russia is only twenty-six years; of infants more than 60 per cent. die before they reach their fifth year; of 8,000,000, only 3,770,000 attain the age of military service, *i. e.*, their twenty-fifth year, and of these at least 1,000,000 are found, by reason of shortness of stature and weakness of body, unfit for military duties. And all for the want of a physician.

Philadelphia Ice Worms.—Not content with discovering many species of ugly animalculæ in the Schuylkill water, scientists assert that even the ice with which the Schuylkill water is cooled for drinking swarms with disagreeable worms. At the last meeting of the Academy of Natural Sciences the president, Dr. Joseph Leidy, stated that a member had recently given to him for examination a vial of water obtained by melting ice used for cooling drinking water. The member who submitted the vial had noticed living worms in the sediment of a water cooler, but had supposed that they were contained in the water. Upon melting some of the ice, however, the worms were still observed. These worms, which are from four to six milimetres long and colorless, belong to the same family as the common earth worms—the *Lumbricoidæ*. Their bodies have 30 segments bearing spines. Besides this cheerful discovery, Prof. Leidy found in the vial several dead worms with large ciliated infusoriæ, vegetable hairs, and other débris.

Sulphur a Remedy for Cholera.—The carrying of a roll of brimstone in the pocket is believed by many persons to be a sovereign remedy for rheumatism, but it has been left to a Dr. Herring to establish the fact that a half drachm of the flowers of sulphur worn in the foot of each stocking is a sure preventive of cholera, and that one clad in this sanitary armor may walk unscathed through the very hotbeds of the disease. Any lingering doubts as to the efficacy of this method, the *New England Medical Monthly* asserts, are dispelled by the fact that while the doctor, who lives somewhere in England, has not had for the last six months a single death from cholera in his practice, a large number of the Egyptians, who unfortunately had no stockings, and were, therefore, unable to apply the remedy, succumbed to the disease.

The Nutritive Value of Beefsteak and the Rarity of Political Truth.—Chaplain C. C. McCabe lectured, October 28th, in the Park Avenue Methodist Episcopal Church upon "The Bright side of Libby Prison." Mr. McCabe told of his capture and incarceration in the prison, and of the many cruelties and hardships he was subjected to in his weak and impoverished condition. He related the joy felt among his comrades when word was brought that they were to be exchanged and sent back to their homes, and told of their transportation to the steamer *New York Express.* "I was lying half-asleep there," he said, "on board the steamer, when I felt something on my chest. It was a soldier sawing away with a knife and fork upon a piece of beefsteak. I have spent five days in the Yosemite Valley, I have seen the famous Falls of Niagara, but I never saw a sight that caused the same emotions as did that piece of beefsteak. I had been carried on to the steamer too weak to walk. Half an hour after eating *that* beefsteak I was able to walk about."

Editorial Miryachit.—Miryachit is the name given in Russia to a peculiar imitation disease. This disease is also recognized in Java, where, according to the *British Medical Journal*, it is known as "Lata." The person affected with it is compelled to imitate everything he sees or hears. Many believe that this disease is something new, but it has in reality existed in this country for very many years. It has prevailed chiefly among the medical editorial fraternity. No sooner does an editor write something of interest or advantage to the readers of his journal, than he sees the same ideas, *expressed in the very same words*, in the pages of his contemporaries. The source or cause of this curious action and coincident composition is never apparent, but the disease is nevertheless quite old in this country, and widespread. Is there any remedy known in Russia or elsewhere for it?

Abuses on Ocean Steamers.—A few months since, this Journal called attention to the many abuses and evils existing on transatlantic steamers. Those who are interested in this subject will read with profit the following facts: Dr. C. H. Hall has been making some observations upon the water tenders in the fire-rooms of the ocean steamers. The employés are exposed to a temperature of about 100° F. He observed that the cutaneous veins became swollen with blood, the pulse rose to one hundred and eighty per minute, and the temperature under the tongue to $103\frac{1}{2}°$ F. The respiration rose from eighteen to forty-two per minute.

Rapidity of Speech.—Physicians are often called upon for an expression of opinion in regard to this matter, and the following facts may be useful: Four years ago Mr. Gladstone delivered at Leeds a speech which contained 8,400 words, and occupied one hour and three-quarters in delivery, so that it was spoken at the rate of 80 words a minute. One of his recent efforts in Scotland contained 11,500 words, and was delivered in one hour and thirty-five minutes. This was at the rate of 118 words a minute.

Explanation of the Pathology and Therapeutics of the Disease of the Nerve Centres, Especially Epilepsy. By J. McF. Gaston, M.D., of Atlanta, Ga.—Advance sheets of this article, as it will appear in the Transactions of the

Medical Association of Georgia, reach this office just as this number of the Journal is being closed. Notice of it must be deferred, with thanks to the author for his courtesy.

A Wonderful Farm.—The *Journal of the American Medical Association,* in its issue of November 8th, 1884, undertakes to describe the Pullman system of sewerage, and then alludes to "the farm" in the following most astounding manner: "The farm has 140 acres capable of being irrigated through these pipes and hydrants, and takes care of the whole sewerage of the town with ease and profit."

The New York State Board of Health has certainly won no laurels for elegance of diction in its published papers. The following is its latest achievement: "Experience has shown that cholera poison does *not* extend where *no* filth favors its multiplication, and that the only way to arrest its march is to remove all sources of pollution of soil, air, or water."

To Publishers.—Those who desire to have their journal, magazine or newspaper printed in the best manner, and with entire satisfaction to themselves, should apply at once to Mr. H. A. Vonneidschutz (3 and 5 Coenties slip, New York), who prints this Journal, and has done so for the year past. Job printing is also done by him in the best manner possible.

The cable message of Dr. Edward Warren, from Paris, will be found in the Correspondence department. He is as yet too ill to furnish his monthly letter. These letters will be continued next year, and will, with many original articles and lectures promised from the best teachers and writers, add much to the value of the Journal for 1885.

Rectal Anæsthesia.—It is hinted by the *Medical Bulletin* that the idea of producing anæsthesia by the rectum is not "fundamentally" correct.—*Philadelphia Medical Times.*

Is it not an anomaly in "Practice" when a rectiform process is not fundamentally correct?

The New York State Medical Association, recognizing and sustaining the old code, and forbidding consultations with "Tray, Blanche and Sweetheart," commenced its first annual session in this city on November 18. Notes of interest will appear in December issue.

Rag and Anti-Rag Doctors.—The physicians of this city are thus divided at present. Some oppose the importation of rags as dangerous, others believe them to be no more dangerous than many other articles of commerce: almost innocuous.

Index Catalogue of the Library of the Surgeon-General's Office.—

The last volume received is No. V. "Flaccus to Hearth," and not No. IV., as stated in October JOURNAL.

THE proceedings of the Gynæcological Society's last meeting, as given in this number, are very valuable. They are well worthy of careful study.

VALUABLE original papers and lectures are promised for next year. Each section of the country will be fully represented.

ERRATUM.—On page 452 October number, for Julius Conheim read Julius Cohnheim.

VOLUME XL.—The first number of volume forty will soon be before the supporters of this JOURNAL. It will mark the beginning of the twentieth year of the JOURNAL'S existence. An age, it is said, four times greater than that of the average age attained by such publications. Whether it marks such an age, however, is immaterial. What is not immaterial is, that it indicates age which is material, palpable, inevitable. It shows twenty years of toil, patience, fortitude; and in the record there are many, very many hours of pain, sickness, and even of prostration ; hours when to stop would have been happiness, and when nothing else urged the writer forward, but that the work had been paid for and was due, and that a life-avocation deliberately chosen must be carried through to the end, or until the son could take the father's seat.

Such is the frank testimony of one of the oldest editors in the present Medical Corps. If it can induce any medical brother who is contemplating similar work to turn away from a field of such severe and endless toil, this result will be an ample reward for the confession made.

If it be egotism to inflict such reflections upon the reader, it is hoped that he will pardon it. One would scarcely be human, however, when near the end of twenty years of peculiar toil, did he not reflect over it, much and often ; and if a little of such reflections be made public, the Public will pardon one who can, at least, never so err again. The record of twenty years more will be for others to declare.

But if there be toil, and suffering, and frequent disappointments to remember ; if there have been these dark clouds over the horizon of such a life, there have been very many hours of satisfaction, of pleasure, and of happy reward. There are to be counted in this record the great pleasure derived from hundreds of lifelong friends, whose letters have often brought days of comfort and happiness and peace ; letters from more recent friends, but not less true. There has been the happiness of living surrounded by the latest works of the greatest medical men, with the ever-welcome shelves-full of fresh exchanges, full of wise thoughts and splendid teaching, and of the genial and ever-welcome editorials of the great medical journalists of this country. There has been the great happiness of study and hard work, and the constant communion with the best thoughts of the best men. Yes, the correspondence, the library and the exchanges of a large medical journal bring great happiness.

Such is the JOURNAL ledger of twenty years, as laid open before the Public: the great record book, with its pages of debit and credit, open for inspection. But there are some entries on the debit side not yet indicated: These are the secrets; they are the accounts of those who take a journal for months, yes, for very many months, and never remember (so it seems) that they are doing so much for themselves but nothing, yes absolutely nothing, for the toiling editor. These are they who do not think of this matter as they ought, for they would spurn the idea of so taking a journal if they did think. Their names stand recorded on the wrong side of the open ledgers, and all who handle these books read the record with surprise and regret. But enough of such secrets, those who are parties to them need no more.

This is the real thorn in the side of the medical publisher: that so many of his medical brethren forget to do what is just and right. Shall the thorn not be drawn out and the pain of bearing it now cease? Each reader knows whether or not he has thus planted a thorn, and as he so knows, and his attention is directed to it, this is enough. There are truly very many thorns so planted, and there are very many of them, if not all, which will now be speedily removed. As the good masons have it, "so mote it be."

And now for one of the chief objects of this notice. It was to place before the readers of the JOURNAL some facts and comments in regard to a twenty years' experience of its editor, to show the real troubles appertaining to the work, to ask their removal; and, for once in twenty years, to ask the aid of *each* subscriber. The request is that with the new year, this twentieth year, each reader in renewing his own subscription will send that of a friend. This can give each one but little trouble, and each one can surely succeed. The result will not be thanks only, and the memory of a good deed, but it will be seen in the form of a JOURNAL so improved and developed, as to bring pleasure to every friend of it. How it can be improved is well known. This requires larger receipts. For once in two decades cannot each subscriber be asked to give to the JOURNAL the strength of his influence and aid?

ENVELOPES INSTEAD OF WRAPPERS will be used hereafter in mailing this JOURNAL; it will thus reach the subscribers without injury in the mail, and will, it is hoped, be far more welcomed. In accordance with the custom of almost all of the better periodicals, there will be stated on every envelope or wrapper the date to which the subscriber has paid. This will be done in lieu of sending receipts, and all who are deterred from sending on their subscription dues because of ignorance as to the condition of their accounts will thus be relieved of a very disagreeable suspense. Any such wrapper or envelope is a legal receipt, and subscribers will thus be saved the annoyance of keeping their receipts and of referring to them for guidance.

MADE UP TO DATE OF ISSUE.—This number, though late, because of the miscarriage of the copy for October JOURNAL, is fresh, and contains the latest news to the date of issue, November 28th.

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GAILLARD'S MEDICAL JOURNAL

AND

(*THE AMERICAN MEDICAL WEEKLY.*)

(CONSOLIDATED.)

Scientia et Veritas Sine Timore.

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ORIGINAL ARTICLES.

ARTICLE I.—ON THE CONDITIONS OF DISEASE DEMANDING ABSTRACTION OF BLOOD. By BENJAMIN W. RICHARDSON, M.D., F.R.S., London, England.*

GENTLEMEN: Medicine is never so satisfactory in matter of practice as when she combines theory with practice, and when, in respect to results, both are in accord. When theory explains what ought to follow upon certain methods of treatment, and when practice confirms the treatment as of sterling worth, the mind of the practitioner is at peace. He knows in what he believes, and acts, whatever may be the exceptional result, with a consciousness that he is following a rule which, on the whole, is beneficent and trustworthy. Our forefathers in physic were weaker than we are, because they had not our advantages in theoretical study. They observed the phenomena of disease as we observe, and recorded them so faithfully and with such true delineation of nature that they leave little for us to do in mere description, nothing that can excel their own. The remedies they employed they also described with infinite care, and the effects of the remedies, in so far as they were able to form a judgment, were written with the most simple honesty. But at these points they stopped; if they endeavored to account for the cause of a disease or the action of a remedy, the *modus*, they fell into a train of reasoning tinctured by the philosophy of their time and inexplicable now. We, more fortunate, are improving in theory by the better light that flows in upon us from modern philhsophy; and so we are able to advance, as they never were, towards knowing not only facts, but the why and the wherefore of facts—a demonstrable advance.

In the matter of bloodletting, our forefathers were great in facts, and I have tried, in a former essay, to accord to them some of the credit that is their due. By their facts the majority of the medical world, even one generation ago, firmly held. At length new theory, very imperfect of its kind, and assuming too much, threw doubts on some of the facts, and thus the practice of drawing blood fell into disrepute, its faults grossly exaggerated, its virtues ignored and forgotten.

We return, however, to the fathers once again. We are forced to acknowledge that, after all, they held in bloodletting a powerful means of cure; we are driven to accept that the remedy was based on correct observation; and we are driven, further, to the conviction that, by omitting to use this remedy, we moderns often let patients die who might live and be cured.

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* This most valuable article, as it originally appeared in this JOURNAL, is republished to supply the demand for it.—ED.

My lecture of to-day is offered as an attempt to treat with this conviction. Not one alone of medical men, but many, have spoken to me upon it with compunction. We read, they say, what you and others have written on this remedy of abstraction of blood; we accept much you have said, but we cannot act as we would, even when we know a case must end fatally, because we have no clear rule for bleeding, nor connected theory on which to rest. You should define more clearly. Well, to-day it is my wish to define, not with dogma, but with reason—reason in which practice and theory go hand-in-hand harmoniously.

THEORY.

Let us endeavor, first, to learn the theory of the practice of taking blood. What physiological changes occur in the body when blood is being abstracted—in what way are these changes likely to influence function? And, that we may have no confusion of thought, let us, on the present occasion, treat only of abstraction of blood directly from a vein.

In tapping a vein, then, and allowing blood to flow from it, we should bear in mind that the venous channel we have opened is not simply a blood-course, but a reservoir of blood; a reservoir from which the right heart lifts up, at each stroke, a column, and pours the charge into the lungs. It makes some considerable difference from what part of the reservoir we take our blood; if we take it from the arm, we draw at first from that section of the reservoir from which the blood proceeds—the hand and arm—and we affect the other parts of the body little; if we take it from the jugular vein, we draw direct from the brain, and very quickly interfere with nervous function; if we take it from the foot, we affect more slowly than from the arm, and much more slowly than from the neck. These facts were well known to the ancients, who, accordingly as they wanted a quick, or moderate, or slow deliquium, bled from the neck, the arm, the foot.

After a time there occurs, under the abstraction, a central change of the circulation; the volume of blood pouring into the heart is diminished at the right side of the heart; thereupon the volume of blood passing over the pulmonary circuit is diminished, and the first symptoms are, unsteady breathing, attended usually with a sense of oppression and desire for air; the balance of the respiratory and circulating systems is disturbed, the pressure of blood in pulmonary circuit is reduced, and exhaustion would now soon follow but for a new change that takes place: the venous reservoir begins to be fed more freely from its tributary sources. We find, if we tie the aorta of an animal just dead, so that no blood can make its way from the arteries into the veins, that for an interval of three, four, and once I knew five minutes, there is an influx of blood into the right heart under the mere motion of its auricle. The venous reservoir, bereft of its supply by the arteries, is filled for a time by tributary currents, by influx of water, by influx of chylous fluid, and by influx of returning blood from the great glandular organs, such as the liver and spleen. Thus the reservoir becomes filled up, not now with simple blood, but with blood containing specially an excess of water. Under these circumstances the blood from the vein becomes of darker color than is natural, precisely as this bright arterial blood before me becomes dark when, as I now do, I infuse into it a little water. At this stage of the operation the blood shows, also, an increased tendency to undergo coagulation ; precisely as this blood before me, in which the fibrine is held in solution by the addition of a salt, shows quick tendency to solidify when I simply infuse water into it. The reason of this is that the influx of water disturbs the balance between the saline parts of the blood, fibrine and water, which is necessary for maintaining fluidity. The blood receiving more water that the salts can remove in due quantity, the fibrine tends to pass into the solid form, to coagulate. Thus sometimes there is a sudden coagulation of blood during this stage of bloodletting in cases where the fibrine, already in trembling equilibrium, is ready, under very slight disturbance, to solidify. A stage little further on, and the blood from the vein ceases to continue to flow, the heart becoming enfeebled, and fails to take up with sufficient force from the venous reservoir the fluid contained in it, and the blood itself loses its sustaining power. Then the evidences of syncope are manifested, lividity passes into pallor, the controlling nervous centres are paralyzed, the volitional centres are paralyzed, and there is deliquium. The deliquium does not, as a rule, pass into death, however, because the heart, though it contracts feebly, continues in motion, and, if the loss of blood be stayed, soon recovers itself; indeed, if the bleeding be continued, the heart continues to contract after the respiration has ceased, and I have seen this day, in an animal that died from actual loss of blood, the heart rythmically acting for ten minutes after death. We have here the same phenomenon as that which is observed after death by chloroform ; and the cause of the phenomenon is that the heart first feeds itself with blood by the coronary vessels, so that it is the last organ of the body that is exhausted, and consequently the last to die. But for this provision every case of syncope would be a case of death.

In this period of temporary suspension of the common phenomena of life there is, as we know, complete collapse of voluntary power ; there is also such perfect loss of sensibility that the late Dr. Wardlaw, before the days of anæsthesia, once bled a lady to insensibility, and while she was unconscious amputated her breast. But soon, should the loss of blood continue, and perhaps should it not continue, there is another symptom added—I mean irregular and severe convulsion. This convulsive action is a definite phenomenon, and it may be seen in the slaughter-house in every animal that is killed by simple loss of blood. It appears invariably at a given moment during loss of blood, it lasts a regular time, and it ends in complete cessation of muscular motion. When we analyze the phenomenon of the convulsion we find that it is simply due to loss of nervous control over the muscular system. The nervous system is dead, and is, as it were, broken off from the muscular system ; but the muscles retain their power to act and persist in action, the flexors against the extensors, the extensors against the flexors, in uncurbed restraint, until both are reduced in power. Still, the muscles retain long what is called their irritability, and if supplied with saline solution, in current, remain active, under stimulation, for two and three hours after death if their temperature be kept low. We have before us proof of this. Here is an animal that died two hours ago; from it every portion of the blood that could be extracted was extracted. We insert now in the aorta an injecting tube, and throw through the arterial vessels, into the muscles, a weak solution of common salt, and under the stimulus of electricity you see the muscles again so active that the limbs are moved freely. These muscles are not dead, and if we could re-connect them with their nervous centres, and restore the nervous power, we could call up a resemblance at least of actual life.

Baron Liebig, in a recent admirable lecture (translated by Dr. Paul, in the *Pharmaceutical Journal*), has called particular attention to this effect of a saline solution in restoring muscular irritability after death, and has adduced in illustration an experiment made on frogs, in which, for several hours after the natural circulation of blood has been cut off from the animal, the muscular motion has been sustained by the injection into the arteries of common salt and water. He has further adduced an observation, by Professor Agassiz, of a wounded shark that lived for a long time on the sea water which had found its way into the circulatory channels of the animal. But we have had better observations even than these in the practice of medicine; for in cases of serous hæmorrhage, cholera in the human subject, we have had instances abundant in which, after the apparent collapse of death, after cessation of motion, sensation, and other signs of life, the introduction of a saline solution by the veins has restored animation. In like manner, in collapse from direct loss of blood, the same restoration of motion has followed transfusion. Again, in some experiments of my own on the bodies of warm-blooded animals that had lain dead in the air at a temperature below freezing point, it was found that so long as three hours after death active muscular motion could be excited by simply injecting water, without salt of any kind, at a temperature of 115° Fahr.; while in a turtle that had been killed by decapitation in the usual way, I once found the muscles of the head, that had been kept at 32° Fahr., contracting vigorously, under mere mechanical stimulus, eighteen hours after they had been separated from the rest of the body.

The evidence, then, is conclusive that, after loss of blood to and beyond the stage of convulsions, the muscles retain their power to contract; they retain it much longer, I may say, under this condition than when they are left full of blood, and they begin to react so soon as they are re-charged, even after prolonged absence of blood. The heart, also, with the other muscles, retains its power, and, as it is most readily re-supplied with blood, continues to act during deliquium, and maintains the life. In the days when to bleed from a vein was a practice followed by every busy practitioner every day, syncope from bleeding was an event of the most common kind; but death from the syncope thus induced was almost unknown.

There has been some difference of opinion respecting the temperature of the body during loss of blood. From the observations I have made in the cases of animals bled to death in the *abattoir*, I was led to infer that through the whole process of abstraction of blood there was lowering of temperature. But this view has been opposed, and it has been affirmed that there is sometimes an increase of temperature during loss of blood. I have on this point some notes recently made by my friend Dr. Day, of Stafford, who has observed the effect of abstraction of blood in a calf that was bled, as is the custom in some parts of England, on two days previous to slaughter of the animal. In this instance, the temperature in the rectum remained on both occasions unaffected, but in the mouth it underwent decided reduction. Dr. Day has also taken observations in two cases of accidental hæmorrhage in the human subject, in one case of post-partum hæmorrhage in the human subject, and in one case of excessive internal hæmorrhage occurring during typhoid fever, also in the human subject. In the cases of accidental hæmorrhage, the temperature in the axilla and the mouth was reduced 1½°; in both these instances there was recovery. In the cases of post-partum and of internal hæmorrhage, there was a decline of temperature to nearly 2° up to the moment of death (both being fatal cases); but in both, at the moment of death, there was a suddenly-developed increase of temperature. This fact of *post-mortem* rise in temperature, on the cessation of the movements of the heart and of the muscles of respiration, has been observed after death by cholera and other suddenly-exhaustive diseases, and has been before us in a previous lecture. Its occurrence in cases of hæmorrhage may have led to the difference of opinion that has been expressed respecting the effect of hæmorrhage by other observers. I do not, however, think the fact in any practical way influences the question we have now in hand; and from evidence we have before us we are, I infer, bound to accept, until other and very decided proof has been given to the contrary, that during loss of blood the temperature of the body is reduced.

We may sum up the physiological effects of abstraction of blood under a few heads. There is, *firstly*, modification of the balance of the circulating and respirating systems; *secondly*, influx of fluids into the venous reservoir from the tributary supplies; *thirdly*, hydration of the colloid fibrine, and dilution of the saline parts of the blood, leading to tendency to separation of fibrine; *fourthly*, syncope; *fifthly*, convulsion of the muscles from removal of nervous control, with retention of the muscular irritability; and, *sixthly*, decline of animal temperature. From these facts we may turn to the application of bloodletting in cases of disease, and may ask, and try to answer the question, What are the conditions of disease demanding the abstraction of blood?

THE PRACTICE.

In considering the practice, the first thought is that those effects of bloodletting, which might be expected to be useful, are such as may be called mechanical effects: in plain, whenever the venous reservoir is under distention, so that due motion of blood and of function of part depending on motion of blood for function is disturbed, abstraction of blood is the most direct remedy. We will consider these cases.

Cases of Lightning-Stroke.—The experience of many observers on the efficacy of venesection in cases of lightning stroke is entirely in support of the value of this remedial measure. In my lectures on lightning-stroke I have recorded a case in which a man who had been rendered insensible by lightning was bled in the freest manner, the consciousness returning during the bleeding, and the recovery being secured. The older men in physic, who always opened a vein in such cases, were apparently clear as to the importance and success of the practice; and within the last year I have had some experiences which in the most singular manner confirm this practice. From an observation made by Benjamin Franklin—that the most humane and rapid mode of slaughtering animals for food would be by a powerful electrical discharge—I was led to try if this really were a practical suggestion. I therefore had sheep taken to the Polytechnic Institution, and had them killed by a discharge from the great battery there. I found that full-grown sheep could be fatally and instantaneously struck down by the discharge from a surface of a Leyden battery of ninety-six feet. But here came the curious fact: when animals struck in this manner were laid on a bench after the shock, apparently dead, and actually dead if let alone, they would show the most convincing evidence of recovery if they were instantly bled freely from the neck. After the blood had flowed for a little time, the animals began again to breathe; they struggled as they do when they have not been struck, and they became so distinctly conscious that I had to give up the notion of recommending any change in the present mode of slaughter. In another case, where a smaller animal was struck down and rendered apparently lifeless, the opening of the external jugular vein was followed by a gush of blood, by immediate return of the respiration, and rapid recovery.

The *rationale* of the treatment in these cases is most simple. The effect of the lightning, or of the electrical discharge, is to create expansion of the contents of the venous reservoir; there is liberation of gases from the blood; distension of veins in all parts; pressure on the brain in the closed cavity of the skull, and insensibility as the result of the pressure; distention of the right side of the heart, so that muscular structure is paralyzed, and temporary cessation of all motion and function. The opening of a vein at once relieves all this embarrassment; the heart is set at liberty to recommence its contractions; the nervous centres governing the process of respiration are relieved; and, if the derangement of the animal mechanism does not extend to actual disorganization of blood, or to severe rupture of organic structure, when no remedy would avail, the natural functions are restored, and life is saved.

I take it, then, that in cases of insensibility from lightning shock, or electrical shock, the abstraction of blood by venesection is demanded.

Sun-Stroke.—In sun-stroke the conditions of disease are closely analogous, if not identical, with those induced by lightning. One of my earliest experiences —an experience that has made me hold to the thoughtful practice of bloodletting —had reference to this disorder and its treatment. A man was carried from the harvest-field to the residence of a surgeon, a relative of mine, insensible from sun-stroke. The patient was carried in like a dead man—unconscious, powerless. He was livid, but breathing at intervals, and there was still some audible motion of the heart. The surgeon, one of the school of Clive and Astley Cooper, and one who had no doubt as to what was the right thing to do, acted promptly. "He will recover if we can only get blood," was the remark to me; so the man was held up by his mates in a garden chair, a fillet was put round each arm, and a vein was opened beneath each fillet. At first the flow of blood was slow, though the veins everywhere were distended to the utmost, then the stream became more determinate, and at last copious, and the result was that in five minutes the man was breathing freely, was becoming conscious, was recovering. He was simply cured straightway, was able to assist himself to walk away, and without any other touch of medical treatment, was restored to full health in a few days.

I urge, then, that in cases of severe sun-stroke, when the venous reservoir is under extreme distension, when the large tense veins offer themselves, I had almost said, to the operator, there is a condition of disease demanding abstraction of blood. In America this fact seems now to be recognized, and the practice of bleeding founded upon it, in so far as it has been carried out, has been most successful. In England, at this time, the practice is lost, and case upon case, during the heat of summer, is registered in the returns of mortality as death by sun-stroke, in which virtually nothing has been done at all to promote recovery; nothing, I mean, that is likely to be successful. Mustard, perchance, is applied to the limbs, cold to the head, a blister to the nape of the neck; a purgative, if the patient can be made to swallow it, is put into the stomach, or an injection is administered by the rectum. Of what avail these slow, these almost meaningless measures? By the side of the grand old remedy they are trifles, having neither theory nor practice to sustain them.

Cases of Mechanical Shock.—The teachings of the writers of twenty-five years ago, when the reaction against bloodletting set in, told greatly and effectively against the abstraction of blood after mechanical shock. It was teaching diametrically opposed to the learning and observations of centuries, but it had its way, and it has been generally adopted. It is, perhaps, not altogether bad teaching, but is certainly too sweeping. Mechanical concussion differs from lightning-stroke and from sun-stoke, in that it does not increase the tension of the venous blood. It paralyzes the muscular system through the nervous system, and it is probable that after such paralysis it were best to endeavor to restore by the application of warmth and the administration of a stimulant, rather than by abstraction of blood. I would not, therefore, put forward bloodletting in such instances, although, at the same time, I cannot conceal the suspicion that, in some cases, the old men were right in trying to bleed. It is certain enough, from the history of surgery, that the fathers of our art, coming to persons who had been apparently so stunned as to be, to common observation, dead, were successful in restoring motion of blood through the vessels of the body by drawing a current of blood from an open vein. I do not press the point, however, because we have in these days no evidence to guide us, except the *litera scripta* of the past. But there is a condition of reaction after recovery from the paralysis of shock which may call urgently for abstraction of blood. In the condition of which I speak, the heart, recovering first from the general shock, pours into the feebly-resisting capillary vessels a full volume of blood, leading to what is called congestion of vascular organs, and to secondary mischiefs resulting from congestion. In these circumstances the pulse becomes resistant, the veins full, the breathing labored, the body hot; while the unconsciousness from the paralysis passes into unconsciousness from coma. Twice, in cases such as I describe, I have seen the abstraction of blood from a vein, until the tension of the vessels were relieved, lead to the most perfect of results; and both theory and practice bring me to the conclusion that this condition is one demanding abstraction.

This same rule would apply to cases of shock following some large surgical operations, and this view is confirmed by Mr. Spencer Wells, who, after the great operation of ovariotomy, has several times taken blood to meet particular and serious symptoms. I asked Mr. Wells to be good enough to give me a brief note on the general results of taking blood in his cases, and thus he writes:

"As to bleeding after ovariotomy, my conclusions are, that it is most useful when there is *mechanical* cause for suffering, as congested lungs and oppressed heart, or sudden loss of balance between heart and blood, owing to removal of a large tumor which contained large vessels and received a free supply of blood. But when we have true surgical fever to deal with, which I suppose is either septicæmia or pyæmia, or one of the two opposed conditions of excess or deficiency of fibrine—and I think we are making out the different forms of fever with which these different blood changes are associated—then I have always found bleeding do more harm than good; more than once it has seemed to me to be certainly the direct cause of rapid sinking."

I shall deal with the last point, noticed by Mr. Wells, further on.

Cases of Reaction from Exposure to Cold.—In cases where the body has been exposed to what may be correctly called the shock of extreme cold, we have, during the reaction, a series of symptoms similar to those which follow the reaction after shock from a blow or concussion. We have the same hard pulse, tense vein, congestion. When these cases end rapidly, we usually return them as cases of acute congestion of the lungs. Well, in truth, they are attended, not with congestion of the lungs alone, but of all the vascular organs, and when they do not terminate at once in death, but run what is called their natural course, they pass into conditions of disease—"inflammation"—of some particular organ: lung, kidney, liver, spleen. The ancients were accustomed to bleed in all stages of this condition, in which practice they were, I think, wrong. But there is one stage in which, when they bled, they were essentially right; I mean the stage of acute reaction, before there is any organic change of structure from congestion and from effusion through the distended vessels. To draw blood freely in this stage is simply to cure off-hand. I was taught this lesson of treatment from the experience of a very excellent practitioner twenty-five years ago. I have always followed it when permission was allowed me; I have never seen a bad result from it; I have cured at once by it; and I have seen the worst results from the omission of the practice. It is pitiable to hear, as is constantly heard, of young, strong, active people, who by accident or surgical operation might lose blood without any expectation of danger, to hear of such being allowed to die from acute congestion because it is not now the fashion to take the blood (which they might lose by operation or accident without anxiety) for the direct purpose of saving their lives. These are cases, unhesitatingly, in which the conditions of disease demand the abstraction of blood.

Cases of Cardiac Congestion.—There is a class of cases in which the right side of the heart is dilated and enfeebled, and in which, under some special circumstances, as exposure to cold, excess of food or drink, barometrical change, there is sudden embarrassment of the circulation, oppression of breathing, tenseness of veins, and threatened death. In these cases the veins themselves stand out so fully that you could draw a fair amount of blood without the fillet, if that were desirable; the body is dusky, the eyes injected, the mind restless, the passive oppression intolerable. It happens often in these cases that the patients are advanced in life, or, at all events, are past the meridian, and on this ground a special objection is taken towards "reducing" them by abstraction of a few ounces of blood; so they are treated with stimulants, with sedatives, with chloric ether, with a blister, and in time they may get relief. They get relief by this process—that, out of the obstructed venous reservoir, a certain quantity of fluid passes into the cellular tissue of different organs by exudation, and a certain amount of further organic disease is thus committed. In these cases it is my practice, whenever I can get permission, at once to relieve the tension of the venous reservoir by the abstraction of a few ounces of blood from a vein. The effects have to be seen to be fully accredited. There is no exhaustion from this process, but a sense of relief from overwhelming oppression; the heart ceases to struggle against the load it could not before lift up; the dusky color of the body clears away, and the symptoms altogether are relieved, we may say, practically, at no more actual cost than would follow if the venous reservoir were allowed to empty itself by passive transudation of serum, and with no secondary train of evils derived from exuded fluid in vital organs. I knew a lady who was bled, under the condition I have named, after her 80th year, and who was always relieved by the process immediately. I classify passive cardiac congestion from enfeebled right heart as a condition of disease demanding abstraction of blood.

Abstraction of Blood in Cases of Apoplectic Coma.—Our predecessors were led in all cases of apoplexy to abstract blood. They made on this point a hard-and-fast rule, and the people had such confidence in the rule that they insisted on having it carried out. A hundred years ago a surgeon or physician who refused to bleed in apoplexy would have lost caste on all sides, and would probably have been considered guilty of malpraxis. Admitting that our predecessors committed some errors by this hard-and fast line of practice, they were less guilty of error, I imagine, than we are in this day; for whereas they treated apoplexy and often cured it, we, as a rule, do not in reality treat it at all, but let it take its own course, resorting to a sinapism, a dose of croton oil, or an injection, for the sake of doing something in the right direction, but leaving the case to that most perverse of curers, *Nature*, which, in nine apoplexies out of ten, means that we leave the patient to die.

But suppose there be sudden coma, with or without convulsion, from sudden pressure on the brain, what are the means by which we can hope to relieve? If the pressure be due to exuded serous fluid in the closed cavity of the skull, our object should be to get that fluid back again into the general circulation. If the pressure be due to paralysis of vessels of the brain, or to obstruction to the return of blood from the brain, our object should be to reduce the pressure, and to limit the volume of blood. If the pressure be even from actual effusion of blood, our object should be to expedite the formation of clot, the separation of serum from the clot, and the absorption of the separated serum. Does any one think sinapisms, croton oil, or injections into the rectum, are reasonable measures for these important purposes; or does any one see anything very promising in nature of a corrective kind? Under mere nature, in such cases, as far as I know, the unconsciousness remains, the body becomes very hot, the action of the heart increases in force, the skin and the mucous surfaces exude copiously, the bronchial tubes become loaded with water, the respiration gets impeded from the accumulation of fluid, the body sinks in temperature, with recurring convulsions, and death, in continued unconsciousness of the patient, closes the chapter. Turn around to bloodletting now as the remedy, and see what it offers. Say we do not always cure by it. Well, is it not better to cure sometimes than never to cure? And what, I repeat, does bleeding offer in apoplexy? It reduces the force of the heart; it reduces the volume of blood; it leads to absorption of serous fluid, if serum be exuded, and it leads to the formation of clot, if blood be exuded. Why, so rational, so purely scientific is the process, that if it had never been discovered, and some one had now discovered it, he—the discoverer—would have been looked on as one of the greatest men of this age of physic!

Turn from theory to fact—and the fact I will give is but one of many in illustration of the harmony that prevails between theory and practice in this matter of bloodletting. Mr. Roberts, of St. John's Wood, called me recently to see a gentleman who was suffering from apoplectic coma, with repeated attacks of convulsions. The patient's breathing was stertorous; his mind unconscious; his volition gone; his body, which had been raised in temperature above the natural standard, cooling; his bronchial tubes and trachea loaded with fluid; his eyes fixed, and his pupils contracted. It was clear that the man must die in the course of a few minutes; but we got permission to draw blood *pleno rivo*, and when about twenty ounces had been drawn, the blood (previously very dark) became brighter in color, the convulsion ceased, and the patient, showing a conscious act for the first time for some hours, coughed up and spat out freely the accumulated fluid in his bronchial tubes. When twenty-four ounces of blood had flowed, the pulse had lost its hardness, the veins their tenseness, the pupil its fixed contraction. We stayed there the bleeding. The next morning I saw that patient move from one bed to another, and take part in changing his own dress; and in a few days I heard of him as about in the air comparatively well.

These are the cases on which our predecessors based their treatment of bloodletting. In our day the case is a wonder; in their day it would have passed as a matter of course. In some cases a difficulty arises from the occurrence of convulsions in comatose states; and in puerperal convulsions, with coma, the difficulty, I know, as to bloodletting is considerable; for, because the extreme abstraction of blood leads to convulsions, therefore it may be considered unsafe, when there is convulsion present, to take blood. It should be remembered, however, that convulsive action may be induced by pressure upon the nervous centres as certainly as by exhausting those centres of blood; and when in any case there is convulsion with no symptoms of exhaustion, but with symptoms of tension, then the convulsion is due to pressure, and abstraction of blood is the remedy. The affirmative points of practice, in the cases of coma with convulsion, which call for bloodletting are—(*a*) Sustained temperature, or excess of temperature, of the body; (*b*) tense veins; (*c*) hard pulse; (*d*) contracted pupil; (*e*) free exudation of fluid, without coldness, on the skin and mucous substances.

In cases of apoplectic coma with the symptoms I have here noted, the conditions of disease demand the abstraction of blood. They demand it, as it seems to me, so urgently that the patient who is allowed to die, without having had given to him the chance of recovery offered by venesection, has been neglected, permitted to succumb by nature, and denied the best of the resources of medical art.

There are, lastly, cases in which coma and convulsion follow on disease of the kidney—cases, so called, of uræmic coma—in which the abstraction of blood is of the most marked benefit. I have treated of these cases in a special essay in the *Asclepiad*, and have no need to repeat the arguments and facts there detailed. I add, therefore, simply that some years of experience and experiment since the essay named was written have but more fully confirmed me in considering uræmic coma as a condition of disease demanding extraction of blood.

CONCLUSION.

I have notes before me treating of other conditions of disease in which the abstraction of blood might be fairly considered. There are, I believe, cases of hæmorrhage, out of mechanical control, in which rapid abstraction of blood, by a vein, to syncope would be reasonable and successful practice. Mr. Hunt has referred me to a case of eczema in which bleeding rendered quick and effectual service, and I have a fact or two on the good effect of abstraction of blood in the congestive delirium of typhus; but I leave all these subjects as *sub judice.*

I have, also, some notes relative to cases in which the abstraction of blood, as practiced by our predecessors, was bad practice; but this topic is too wide to be entered upon here, except in one particular, which I dare not leave unnoticed. Both theory and practice show that in confirmed inflammatory conditions, where, upon congestion, structural change of some important organ has supervened, where the temperature is persistently high, the skin dry, the tongue furred, there is danger in bleeding. I pointed this danger out long ago, and it lies in this—that during the inflammatory fever there is always tendency to disposition of fibrine in the venous side of the circulatory system, and this tendency is increased by the abstraction of blood. Mr. Wells's experience, expressed above, entirely confirms the view thus stated.

And now my present task is over. I have endeavored to avoid doubtful questions, in order to fix attention on what may be said affirmatively and firmly in favor of one of the oldest and grandest of remedies. My object has been to bring that remedy out again to the full light of day, to place it on a scientific basis, to reclaim it, to reform it, and to beg your support in the effort.

Article II.—The Puerpera and Peritonitis—Treatment and the Principles Involved. By H. J. Nott, M.D., Beeville, Texas.

One of the recent contributors to Gaillard's Journal, desirous of hearing from rural physicians, inquires why they do not write oftener, and suggests modesty as the cause of their silence; the prime cause, in plain speech, is laziness —remedy, unknown. In accord with this wish, the following remarks are offered relative to the treatment of the pyrexia of the puerpera.

The text-books of the day divide all fevers into two classes, symptomatic and essential. It may be assumed that there are certain general principles applicable to the treatment of every fever, be it symptomatic or essential. As a logical deduction, it follows that he who knows the general principles of treatment for one fever knows the general principles of treatment for all; and, also, he who does not know the general principles of treatment for any given fever, as the pyrexia of the puerpera, knows the general principles of treatment for none.

It does not fall within the scope of my purpose to state what are those general principles, nor do I even claim to know them all; suffice it to say that there is one principle which I deem essential in the treatment of every fever, and what that is the sequel will show.

As simple pyrexia of the puerpera may develop into what is called septicæmia, or the pyrexia may be associated with metritis, etc., it will be my plan to consider the pyrexia as arising from peritonitis, and to treat on general principles this pyrexia, whether it develop into septicæmia, or be associated with metritis or any other essential fever.

Now, whether the pyrexia arises from metritis, cellulitis or peritonitis, or all combined, the principles of treatment are identically the same; I only select the pyrexia arising from peritonitis in order to show that, in my opinion, the text-books of the day inculcate erroneous views relative to the treatment of peritonitis, at least so far as regards the treatment of it in the puerpera.

All theory aside, be it assumed only for the present that septicæmia in the male and puerperal septicæmia are identical diseases, but with different tendencies; then it may be briefly stated that I have found no known treatment of any avail for the cure of septicæmia in the male, the tendency to death being intrinsic as regards the male, and the inevitable result has been death in every instance. In the treatment of that septicæmia which seizes the puerpera, I have been more fortunate, finding that health gradually returns without employment of any specific treatment, and that the disease does not always end fatally —in fact, it might be almost maintained that the puerpera should never die of septicæmia *per se*, for, as regards the female, the disease has a direct tendency to health. It is granted that septicæmia occurring with severe injury resulting from parturition may end fatally; or puerperal septicæmia may be associated with erysipelas, scarlatina, etc. In such instances death may be a frequent result.

While admitting that puerperal septicæmia may be oftener fatal in cities than in the country, yet I accept as true the general statement of Professor Flint, that diseases are essentially the same in different parts of the world, and that they undergo little or no material changes from age to age. An opinion of late has been freely circulated in medical journals that puerperal septicæmia is almost unknown in country places, said *ipse dixit* reported to be founded on an assertion of Hervieux. This chimerical idea could only be exceeded by a rural doctor's assertion that true puerperal septicæmia is entirely unknown in cities.

Too often is the therapeutist uncertain whether his patient recovers because of or in spite of the treatment, and too often is he equally uncertain whether his patient dies because of or in spite of the treatment, or because something was omitted that might have been done.

Principles constitute the true basis of therapeusis. If principles are correct and properly executed, practice will also be correct; if principles are erroneous and faithfully executed, practice will also be erroneous.

As a cardinal principle, I adhere to the following rule, viz.: When the patient has a temperature above 100° F., if the bowels do not act spontaneously, an attempt to evacuate the bowels by some means should be made every 24 or 48 hours; the means, of course, consist in the appropriate employment of cathartics, aperients or enemata. This principle is held to be inviolable in any and every case, from the sting of an insect to the bite of a serpent, from a pin-scratch to the severest injury or surgical operation, from the simplest to the gravest disease.

Upon mere assertion, without some proof, the reader's assent to the universal application of this dogma is not expected, for said dogma is in direct opposition to the teachings of all standard authorities of the present day, at least contrary to all teachings of which I have any knowledge. If it can be shown that this principle is applicable in regard to the treatment of acute peritonitis, then doubtless it will be admitted that it is proper in nearly all other instances.

That the medical Profession in general is dissatisfied with the present accepted opiate treatment of peritonitis needs no argument; yet what is the error and how to eradicate it no one has ventured to demonstrate. That the pendulum of medical opinion has swayed from one extreme to the other is too glaringly apparent, if not from bad to worse, at least from bad to but little better: truth may be found between extremes. Prof. Flint does not speak enthusiastically of the opiate treatment, merely stating that it is in strong contrast with that formerly pursued. Prof. Niemeyer, while condemning the old treatment, as irrational as it was injurious, says it is true we cannot claim any brilliant results from that now in vogue.

In order to more clearly explain wherein I consider the present opiate treatment of acute peritonitis erroneous and defective, the text of Prof. Flint is selected, and it is so done, be it remembered, with no intent of criticizing Prof. Flint individually any more than the Profession *in toto*. While agreeing in the main with the premises assumed in the text, but not with the conclusions drawn, I maintain that there are serious errors in the execution of principles, and that the treatment is thereby rendered defective; especially so as the text, by a chain of reasoning, arrives at the ultimate conclusion that cathartics should not enter into the treatment of this disease, and also that the bowels should be allowed to remain constipated during the career of the disease. I contend that calomel and blue-mass, which rank as cathartics, may, in proper dose, combined with an opiate, be beneficially given in the treatment of this disease; but whether any other cathartic combined with an opiate could be safely given is beyond my observation. However, whether either calomel or blue-mass is a cathartic, in the proper sense of the term, may be called in question. Though nothing is positively known in respect to the therapeutie effect of mercury, yet the theory of Dr. S. V. Clevenger* is accepted, and therefore from any mercurial cathartic I claim no other therapeutic benefit than that which may arise from mechanical effect, produced by the transit of finely-divided metallic mercury through the entire vascular system. If a mercurial cathartic has only a mechanical effect, why combine it with an opiate? Because, according to my observation, the mercurial not only increases the potency of the opiate, but multiplies its uses. In nearly all instances an opiate in any given dose has a greater and better effect when combined with a mercurial than without it. In some cases, from idiosyncracy, an opiate provokes vomiting; if a mercurial be combined with the opiate, the tendency to emesis is checked. In the majority of cases of vomiting, even when no idiosyncracy exists, and it is desirable to control emesis, I know of no remedy equal to an opiate combined with some mercurial. But in the treatment of acute peritonitis, by far the most important use of a mercurial is that it prevents opium from diminishing, or rather from suspending the intestinal secretions. The mercurial, by maintaining a constant flow of glandular and intestinal secretions, thereby keeps the fecal mass in a soluble condition, so that, lubricated, as it were, the fecal mass glides readily into the rectum, and is easily removed by simple enemata.

In the treatment of peritonitis according to text-books, the main reliance is upon opiates. My experience, in a nutshell, is that a cathartic in a proper dose —calomel and blue-mass, so far, are the only cathartics found to answer—should be combined with an opiate, and what the cathartic lacks in efficiency should be supplemented by the use of the safe, effectual and simple warm-water enema; and, moreover, to prove that in the nice adjustment of these means consists the only rational treatment of acute peritonitis will be my earnest endeavor.

While the text-books counsel that peristaltic movements should be controlled, and also enjoin quietude of body, all which I thoroughly grant, they commit the oversight of paying no attention to pressure that may result from accumulation of feces within the intestine. In order to insure as perfect rest as possible, I maintain that it is fully as important to prevent undue pressure within the intestine as to control peristaltic action, and therefore proper measures should be employed, not only to relieve but to prevent this evil if possible. It is a law of hydrostatics that the pressure of a fluid is in proportion to its height, and though the force exerted within the intestine, in harmony with this law, may be slight, yet this force, nowise lessened by protracted constipation, but rather daily increased, as well by substances taken for nourishment as by intestinal secretions, must have a tendency to distend the intestine, and in some cases must prevent that rest which it is so desirable to obtain.

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* See "Mercury, its Chemistry and Therapeutics," in GAILLARD'S MEDICAL JOURNAL, Vol. XXXV., pp. 283–312.

It is not, however, even affirmed that constipation *per se* perceptibly increases fever, but I do maintain that in the majority of cases the sudden rise of temperature, so often observed after a change in position of fecal mass, is due to pressure exerted by the mass on some part of the inflamed intestine, with peritoneal coat included, and the proof that pressure is the cause of the increased fever is the rapid subsidence of temperature, so often noticed after a free evacuation of the bowels. See GAILLARD'S MEDICAL JOURNAL, August, 1883, page 162. In an abstract is the following language: "A rise of temperature is often observed in women after childbirth or ovariotomy, subsiding after a free catharsis. . . . Dr. Küstner, in a series of observations upon women after ovariotomy, found that the temperature rose when the fecal matters had passed into and distended the rectum." Dr. Küstner attributed the fever to a resorption of the secretions. In the same abstract the writer says: "A more probable explanation lies in the fact that fever is a nervous phenomenon due to interference with the heat-regulating centres. Constipation *per se* would produce nervous symptoms in predisposed persons, and fever is not unlikely to be one of these. The rapid subsidence offered on catharsis is not explicable on the resorption theory."

In Flint's "Practice of Medicine," fifth edition, page 588, are found the following propositions, numbered for reference: "1. An important point in the treatment of an acute inflammation of any part is to secure for the part as complete rest as possible. 2. Cathartics, then, should not enter into the treatment of this disease. 3. The bowels should be allowed to remain constipated, if evacuations do not spontaneously occur, during the career of the disease, even if this period be a week or more. 4. If the patient suffers from an accumulation of feces within the rectum, its contents may be cautiously removed by repeated simple injections."

The first proposition I accept as absolutely true. There is objection to the second, because of the universality of the proposition, for thereby the use of all cathartics is excluded, which I consider an error. In the third proposition is found embodied the weightiest error, for, judging from the above-quoted abstract, and from reported cases in journals of the present day, it is a notorious fact, almost beyond contradiction, that a free evacuation of the bowels causes a speedier subsidence of temperature than all other remedies combined, all antipyretic drugs having lost what little reputation they ever possessed. If constipation is an evil, whatever tends to increase it only adds to the evil, and as the opiate treatment has a tendency to cause constipation, then the opiate treatment itself forms a third error, unless it can be proven that the benefit derived exceeds the mischief done. In confirmation of the last remark, many journals of the present day furnish evidence that the opiate treatment is dreaded nearly as much as the old cathartic treatment. No remarks here made must be so construed as to convey the idea that I undervalue opium when properly used. The fourth proposition is perfection, as far as it goes; but, according to my views, enemata are frequently required when the patient does not suffer from accumulation of feces within the rectum.

Prof. Flint's first proposition, being accepted, forms the guiding principle in the treatment of acute peritonitis, and therefore, if it is absolutely true and faithfully executed, the practice ought to be correct. According to present acknowledged facts, it is not only probable, but almost positively certain, in the majority of cases, that the sudden rise of temperature in peritonitis is due to the fecal mass acting as a foreign body against an inflamed intestine or adjacent structures similarly conditioned, and if this is admitted, it is a rational inference that this foreign body should be removed, if it can be so done without conflicting with the first proposition. If it is admitted that constipation is often an evil, then, in unison with Prof. Flint's teachings that prevention before cure should hold the first place in all our studies, it follows that constipation should be prevented if it can be done in strict accord with his first proposition, but if it cannot be prevented, then the only resource is to treat it when it occurs.

However, even if it should be granted that constipation is an evil, and should be prevented or corrected, still *a priori* reasoning could not prove that any given measures or remedies would safely effect either prevention or correction; therefore, all argument is at an end, and I can only vouch for the rule of action followed in my limited country practice, and thus send it forth to the profession at large for more extended experiment and observation.

To save time, a formula for pills is given: ℞. Calomel, two grains; blue-mass, six grains; Dover's powder, twenty-four grains; quinine sulphate, three grains; syrup, sufficient. Mix, and make twelve pills.

Calomel and blue-mass are combined because I have been in the habit of using both; calomel alone might answer just as well. Dover's powder is used because it usually keeps the patient in gentle perspiration; opium or morphine in proper quantity may be substituted when desired or required. Quinine merely serves as a tonic; any of the cinchona preparations would answer, and dose may be increased if a malarial element demands it. The pill is not intended as a cure-all, but simply as a standard, the different ingredients being diminished or increased to suit circumstances.

As I am more particularly discussing the

TREATMENT OF THE PUERPERA,

in whom it may be assumed there always exists peritonitis of more or less extent, I will take, for example, the case of a puerpera on the third day after confinement. When the temperature of patient does not exceed 100° F., if the bowels do not act spontaneously I prefer the use of the simple warm-water enema on the third day, and every two or three days afterwards, and advise no other treatment, provided there is no increase of fever, nature being fully able to safely take care of the case without the aid of medicine or the officious interference of the attendant.

If in above-conditioned case there are any symptoms of mastitis there need be no alarm, for the blood-vessels and lymphatics will remove all engorgement or induration of the mammæ. A piece of flannel moistened with spirits of camphor, or any mild liniment, may be applied to the mamma to relieve any uncomfortable tension or slight pain. Of course, in a puerpera of a scrofulous or tuberculous diathesis, mastitis may occur, defying all resolvent treatment, and may terminate in abscess—opening spontaneously or requiring the lancet. It may be here stated that in a case like the above, when the labor has not been attended with any difficulty, a dose of castor oil or Epsom salts may be used as an aperient; but if the labor has been tedious, or recourse to instruments has been compelled, it is by far the safer practice to trust to the simple enema. If on the third day the fever is 101° or 102° F., a pill should be given, and the next morning, if the bowels have not acted, an enema should be used. If fever does not increase, a pill should be given every forty-eight hours, and an enema used as directed until fever terminates. If pills act too freely, or if there should be a tendency to diarrhœa, a pill should be divided into four parts, and one part given every forty-eight hours, in the interval, opiates being given as often as needed to assist in controlling the bowels. If mastitis occurs, but little attention need be paid to it, for the remedies addressed to the treatment of the peritonitis will remove all engorgement or induration. In fact, mastitis generally diminishes or increases according to the fall or rise of fever, and the observant physician, from visit to visit, by simply taking temperature of patient, will be instantly informed of progress of mastitis before examining mammæ or inquiring of the patient. If the fever is lower, mastitis is better; if fever is higher, mastitis is worse. If at any time patient complains of severe pain in mammæ, warm fomentations may be applied as often as desired.

Again, if on third day fever is 103°, then a pill in the morning and one at night should be given for every period of twenty-four hours, an enema being used every morning if required. As the fever subsides, the interval between the times of giving pills should be proportionately increased.

But, suppose that the fever on the third day, or in any case given above, suddenly rises to 105°, accompanied by severe pain in the abdomen, what is to be done? My practice is to give pill, apply warm fomentations to the abdomen, and, if the bowels are constipated, to use immediately one single warm-water enema. If the fever continues unabated, a pill is given every three hours until four are given, and the following morning an enema is used, cautiously repeated if required. If additional opiates are needed to relieve pain, they may be given between the times of giving pills. If pills are too active, only a half or fourth-part of pill should be given at one time. This practice is continued two or three days, and if fever shows no tendency to abate the pill should be given only once every 24 or 48 hours, for otherwise ptyalism might be produced, which, in my opinion, is always injurious and never beneficial in any fever or disease. Of course the bladder should be attended to, and if there is retention of urine the catheter should be used as often as needed. Occasionally there may be cystitis, and if so the bladder should be washed out with simple warm water.

The above is a general outline of my practice in the treatment of the pyrexia of the puerpera. It matters not whether the pyrexia arises from endometritis, metritis, salpingitis, ovaritis, cellulitis or peritonitis, or all combined, the treatment for all is identically the same: it is the treatment of a symptomatic fever.

In any given case, who so wise as to decide to what extent each anatomical part takes share in producing the pyrexia? Moreover, say the puerpera contracts the measles, then an essential fever is added; again the treatment is identically the same. In place of measles, say that malarial fever is added; then the same treatment is pursued, only quinine is pressed more freely into service, as it has special potency in arresting malarial fevers. The dose should be only one or two grains, there being no use for ten or twenty-grain doses, so far as the puerpera is concerned. Again, say that malarial fever is absent, and there arises a chill, followed by hyperpyrexia and sweating; this constitutes what is usually termed septicæmia, and the above treatment is pursued, care being taken that the patient is not ptyalised by prolonged treatment.

I always allow the puerpera to drink wine, whiskey or brandy in any quantity she desires, and under all circumstances, from the first hour after delivery until perfect convalescence is established. If calomel or blue-mass is being used, there is objection to sour wines, as ptyalism may be produced, which is always to be avoided. The diet, of course, should be in a liquid form, and in protracted fevers any tonic remedies, as iron preparations, etc., may be used according to the judgment of the attendant. As an example illustrating the above principles, the following simple case is copied from my note-book:

Feb. 3, 1884: I was called to see Mrs. A. on the eighth day after her confinement, she having been attended in her labor by a midwife. Finding patient complaining of only slight headache, pulse not very frequent, bowels somewhat constipated, no temperature taken. I prescribed a pill to be taken at bed-time, and a simple enema to be used in the morning, if needed.

Feb. 4, 9 A.M.: Temperature, 104.5°; ordered enema; at noon bowels had acted; gave pill, also one to be taken at 3 and 6 P.M. 7 P.M.: Temperature, 103°; pulse, 100°; ordered another pill at 9 P.M.

Feb. 5, 9 A.M.: Temperature, 99.5°; pulse, 92; bowels acted from enema. 8 P.M.: Temperature 99.5°; pulse, 82; no medicine ordered; patient discharged; directed to send for me if needed.

Feb. 9, 9 A.M.: Temperature, 100.5°; gave pill; ordered enema, which acted well. 2 P.M.: Temperature, 105.2°; pulse, 84; severe headache; gave pill; lochia somewhat checked. 5 P.M.: Temperature, 104.7; pulse, 87; still severe headache; gave pill. 9 P.M.: Temperature, 105°; pulse, 87; severe headache; gave pill.

Feb. 10, 9 A.M.: Temperature, 102.5°; pulse, 90; action from enema; ordered an enema to be given at 11 A.M.; gave no pill. 2 P.M.: Temperature, 102.5°; pulse, 100; action from last enema; ordered pill; headache nearly gone. 6 P.M.: Temperature, 101.5°; pulse, 84; sweating; ordered pill at 9 P.M.

Feb. 11, 9 A.M.: Temperature, 99°; pulse, 78; bowels acted during night. 2 P.M.: Temperature, 99.5; pulse, 72; action unassisted; nothing ordered; patient discharged; to be called if needed.

Feb. 20, 1 P.M.: Temperature, 102°; pulse, 88; gave pill; another to be taken at 5 P.M.

Feb. 21, 9 A.M.: Temperature, 99.5; pulse, 72; bowels had acted; patient now finally discharged.

The above case, of course, was not a very severe one, yet it may be noticed that it exhibits three several treatments, and each time with above-stated result.

The reader is at liberty to form his own conclusions, first: whether the patient recovered because of or in spite of the treatment; secondly, whether the fever was symptomatic or essential.

As regards the use of local treatment in my practice, vaginal injections of simple warm water are occasionally employed to promote cleanliness and comfort, and if there is much fetor the vaginal injection may be a half per cent. solution of carbolic acid; usually, vaginal injections are required only after instrumental labor, or when labor has been followed by post-partum hæmorrhage. Concerning uterine injections I have no experience, having implicitly followed the advice given by Dr. T. Gaillard Thomas, in the fifth edition of his "Treatise on the Diseases of Women," page 269: "I should strongly recommend the general practitioner who is unfamiliar with the treatment of uterine disorders to avoid their use entirely, except in cases of uncontrollable hæmorrhage, in which the cervix is well dilated and no flexure of the uterus exists."

Though many words have been employed to prove that Prof. Flint is in error, yet by referring to the treatment of acute peritonitis, as given in his "Practice of Medicine," it will be found that the above-given case is treated in close conformity with his teachings and observations, and that the main departure from his counsel consists in keeping the bowels open by the mildest measures known, instead of allowing them to remain constipated. At the present time, as many practitioners, and especially Prof. Flint, admit that mercury in a minute dose is a tonic (though Dr. Clevenger says, "Mercury is not a tonic; but as it increases secretions, removes obstructions, . . . it induces tonicity as the bromides induce sleep"), all argument aside as to this distinction, possibly they will admit that this tonic may be as useful in acute peritonitis as in any other disease, though they might suggest that my treatment advises too much of the mercurial tonic. The observant practitioner ought to have a clear idea not only of what he tries to do, but also of what he does do; an obscure idea of what he does not do is not of so much importance. That certain micro-organisms exist, may be accepted as placed beyond doubt, and that they can be destroyed by strong solutions of certain drugs appears equally certain; but that micro-organisms are destroyed by the usual antiseptic injections is hypothetic.

Regarding the weak solution of carbolic acid commonly used as a vaginal or intra-uterine wash, it may not be unprofitable to inquire into the possible effects of ingredients. First, the warm water, apart from its cleansing property, may have a soothing effect; secondly, the acid may have a slightly caustic influence upon any abraded surface, thus preventing absorption of toxic material or micro-organisms; or, when there is an extensive suppurating surface, the acid may again act as a caustic, and by thus checking the flow of exudates may serve an important purpose.

In explanation of last remark, it will be well to note that formerly, in treating a case of suppurative synovitis of knee-joint, the surgeon was often obliged to amputate limb to save the life of the patient. Nowadays the surgeon, by free incision, drainage, and washing out joint with injection of solution of carbolic acid or other antiseptic, saves life and limb. In both instances the most important problem presented is how to adjust supply and demand, or, in other words, how to prevent undue waste of the systemic economy. As the daily loss to the system, from the extensive suppurating surface, is greater than the daily supply of assimilated nutriment, death would eventually result from inanition if not prevented by some treatment. Former surgeons, in a vain attempt to treat successfully, often persisted, until patient was at death's door, then by amputating limb arrested instantly the loss to the system, and by this proceedure generally saved the patient's life without further trouble. The modern surgeon, in order to accomplish the same result, that is, to arrest loss to the system, and to save thereby life and limb, uses drugs termed antiseptics; but a clearer idea of relation of cause and effect would be conveyed to the mind if these drugs were denominated styptics, escharotics, etc., for in this knee-joint case the most valuable factor of any drug that may be used is its power of arresting loss to the system, and not its potency to destroy germs.

To return to my subject: Thirdly, acid may possibly destroy micro-organisms; fourthly, as a remote contingency, acid may poison or destroy patient. Only one more of the antiseptics need be noticed, for, according to Dr. T. Gaillard Thomas, all appear about to be abolished in favor of the bichloride of mercury, 1 part to 1,000 or 2,000 of water. The stronger solution is used for all antiseptic purposes outside of the uterus, and the weaker solution as an intrauterine injection.

As regards the effect of ingredients of this antiseptic solution, when used as a vaginal or intra-uterine wash, a few words may be devoted to speculative inquiry. First, the warm water, besides its cleansing property, may have a soothing effect. Secondly, the bichloride of mercury, being composed of two elements, mercury and chlorine, may produce certain effects by the action of the chlorine, and also certain effects by the action of mercury. The chlorine, possibly, has nearly the same effect as that attributed to carbolic acid above described.

In the article above cited, page 314, Dr. Clevenger says: "The antiseptic properties of the bichloride are due wholly to its chlorine. . . Doubtless this antiseptic property accompanies the mercury, in this soluble form, into the blood, adding to its efficiency as a remedy in syphilis. . . ." As to the remaining element, mercury, what does it accomplish, or what becomes of it? According to my understanding of Dr. Clevenger's theory, it makes no difference how mercury gains entrance into the blood, whether by the lungs—mercury being in a state of vapor—or per os, or per rectum, or by hypodermic injection, or by mercurial inunction, its true therapeutic effect is derived solely from the physical properties of metallic mercury in a finely-divided state, and in this finely-divided state acts as a deobstruent by its movement in company with the animal fluids through the vascular system.

In regard to the late departure of administering mercury per vaginam or per uterum, as cases of stomatitis, eczema, etc., have already occurred, it may be assumed that the mercury in part is absorbed and finds its way into the blood, and, being in a minute quantity, is beneficial by acting as a tonic, so admitted by many of the profession; but, according to my views, the good effect depends upon the mercury increasing the secretions in general, and especially the intestinal, for reasons above given.

When this subject is thoroughly investigated by the Profession, possibly it will be found that the major good obtained from a solution of bichloride, when used as a vaginal or intra-uterine wash, arises from the absorption of the mercury, and that the minor good is due to the antiseptic property of chlorine. If this be so, why would it not be the better plan to administer mercury by the mouth, and to use the solution of chlorine properly diluted as the vaginal wash?

Though surgery has accomplished much in the last score of years, yet it usually boasts most of what has been achieved in ovariotomy. While it is true that unbounded praise is due surgery so far as regards improvement in manipulative skill in this branch, yet, when this is said all is said; for after a surgeon has completed his surgical work, he is just as undecided as to what is correct medicinal treatment as was the surgeon of twenty years ago. In proof of last remark, the reader has only to refer to reported cases of ovariotomy as given in journals, and he will find that in some cases almost absolute nihilism prevails; in others, if any medicinal treatment is used, there are no fixed principles—doubt and uncertainty are conspicuous in all that is done throughout. Byron says men's consciences are like their watches, no two go alike, yet every one believes his own; so with ovariotomists and their rules of action. Notwithstanding that ovariotomy is outside of the subject, yet as Prof. Flint, in speaking of surgery and obstetrics, says, " they cannot be disconnected from principles which are common to them and to medicine in its restricted sense." It follows that if the principles herein expressed are correct for the treatment of peritonitis in the puerpera they are correct in every branch of science.

In GAILLARD'S MEDICAL JOURNAL, February, 1884, page 125, is found a report of a case of ovariotomy. A few words may be devoted to the analysis of the medicinal treatment, and, upon the assumption that my standard is correct, to the exposition of its truths and errors. In this case, within 24 hours after the operation was completed, the temperature of patient ran up to 102°, pulse 120, gradually subsiding to the normal in a week. "Warm drinks, generous soups, whiskey toddies were used for four days, when a solid régime was resorted to." Possibly it is better to avoid solid food until patient is somewhat convalescent. "Sleep was promoted by an occasional opiate." Correct. " The bowels were opened on the fourth day by salts in broken doses." Not very wrong; but the use of simple enemata is the safer plan, and also the better, as the digestive organs are not interfered with thereby. " On the sixth and seventh days a dose of calomel and Dover's powder was given, with the happiest effect." This happiest effect verifies standard, though size of dose is not given. For a week there was not an unfavorable symptom. " But now cold extremities, clammy sweats, loss of appetite, temperature at 103°, ensued. What is the matter? Malaria is suspected and quinine is liberally used. For ten days the bowels were constipated, tongue white, anæmic, and temperature 103°. Quinine in twenty-grain doses was given, followed by ten-grain doses of calomel each night for two days, when the bowels were freely evacuated, followed by a return of appetite and subsidence of temperature." This again verifies standard as regards good effect of calomel and evacuation of bowels, but why this delay of ten days? In accord with standard, when temperature is 103°, a pill in the morning and one at night should be given, and the next day an enema used if required. The large doses of quinine were possibly useless; smaller doses of calomel, followed by enemata, if needed, would have been safer; however, the result was perfect recovery.

My first experience with pyæmia or septicæmia in the male was in a confederate hospital near Gettysburg. I saw several cases, treated a few—all died. In an edition of Gross' "Surgery," published shortly after the war, it is stated that over forty cases of pyæmia occurred in the federal hospitals at Gettysburg, and that all died. Since the war I have attended two cases of septicæmia in the male—both died.

At the beginning of this paper, for convenience, two unproved propositions were united into one: the first, that septicæmia in the male and puerperal septicæmia are identical diseases (this belief, though concurred in by many of the profession has by no means been substantiated, yet it may be accepted until the contrary is proven); the second, that the tendency of the disease is different according to sex, the tendency to death being intrinsic as regards the male, and the tendency to health being intrinsic as regards the female. As to the second proposition, I am not aware that any writer has ever discussed or even drawn attention to it; it is, in fact, merely an assumption, and to prove its truth or falsity demands future inquiry on the part of the Profession.

Article III.—Gun-Shot Injury of the Head and Foot. By O. C. O'Mohundro, M.D., Rural Hill, Tennessee.

In view of the compliment conferred upon us as general practitioners of medicine in the country by J. Henry Bennet, M.D., in a late issue of your valuable Journal, also (some previous to this) by other great heads and lights of the medical Profession, appealing to us for a report of all the unusual and anomalous cases that came under our observation, in order that the general Profession may become more edified, and the statistical reports of medicine made more reliable instead of uncertain; I offer this paper.

To show we are not entirely unworthy of these eulogies, or insensible to the moral obligations that devolve upon us as members of the great corps of medical men of this country, we must all submit for consideration our cases.

CASE I.—GUN-SHOT INJURY OF THE HEAD.

On the 17th January, 1884, I was sent for hurriedly to see a boy who had been injured by the firing off of a shot-gun. I was four or five miles away to see another patient when the messenger reached me. Owing to extremely bad weather and rough roads, it was some three hours after the accident before I saw the patient. On my arrival, his father (Mr. John Boyd), postmaster of Rural Hill, gave the following history of the case:

His little son, Willie Boyd, eleven years of age, had taken his gun that morning to shoot some birds, had gone some half mile from the house when he fired his gun, a single barrel; it was blown into several parts, driving at the same time, the breach-pin of the gun into his skull. The screw which was used to fasten one end of the pin to the stock of the gun still maintained its place *in situ*, was also driven through outer table of the skull, being at right angles to the pin. This pin made a half turn to the right before it entered the skull, striking it in a lateral position, the screw maintaining its position. The boy came home soon after the report of the gun was heard, without assistance, bringing all the broken fragments of the gun except the lock, which he could not find. I mention this to show his rationality. The breech-pin, however, still remained buried in the skull, and on account of my delay Mr. Boyd had taken a pair of shoe pinchers, and by using, as he expressed it, great force, had succeeded in extracting the breech-pin.

Upon examination, I found the pin had entered the frontal bone one inch to the left of the median line and just below the frontal eminence, making the point of entrance about half-way between the edge of his hair and the superciliary ridge; had penetrated both tables of the skull, and the blood stain on the pin measured 1⅞ inches. The screw had not penetrated the inner table of the skull, but had only produced some depression of it. The point had penetrated and wounded the membranes and the brain for about an inch; the movements of the brain from each pulsation of the head were plainly visible some distance from the bedside.

Some cerebral matter came away with the cloth which had been bound over the wound, and more came away after its removal. Upon the introduction of my little finger, which easily entered the external wound and the table of the skull, I discovered a wound in the inner table of the skull, but too small for the end of my finger to enter. The depression of the inner table was very slight, and the wound through it smooth, so far as I was able to ascertain, though the outer table was rough, admitting easily the little finger. The screw, being at right angles to the breech-pin, had made a considerable hole into the outer table of the skull, but I could not discover any loose fragments of bone, all being impacted in the diplöe. To my surprise the constitutional symptoms were very slight; he complained but little, and was cheerful and hopeful. Pulse, 96; respiration, 24; temperature, 97°.

As the membranes of the brain had been wounded, and the cerebral matter itself had been oozing out, I gently closed the wound with adhesive strips, leaving drainage room. Cold carbolized water dressing was directed for the wound, with 10 gr. bromide potass. every four hours; also left tincture veratrum viride to be given if there was much reactionary fever; ice cap to be applied, if necessary. The little fellow was perfectly rational, and did not seem to comprehend his grave condition.

No symptoms of compression, either from hæmorrhage or depressed bone, being present, and as the pin was sharp at the point of entrance, I hoped the wound through the inner table of the skull was an incised wound, not driving any spiculæ of bone before it, or producing any circumscribed depression of consequence around the orifice.

I resolved to delay trephining and await symptoms, in view of the fact that children bore injuries of the skull and brain much better than adults do, and that wounds of anterior lobes of cerebrum were less dangerous than any other part of the brain, expecting, however, to have early and grave symptoms of inflammation to deal with as a necessary consequence of the brain injury.

Jan. 18: Found patient had been restless a part of the night; his pulse, 84; respiration, 30; temperature 98°; but still perfectly rational. He has some numbness of right extremities, and difficulty in micturition.

Knowing the preponderance of proof and weight of authority in favor of early trephining in all punctured wounds of the skull, regardless of subjective or objective symptoms, I now concluded it safest to operate on him, and sent for Dr. William Boyd, of McQuirtersville, he being an uncle of the little patient, to meet me that evening, or as early next morning as he could get there, to aid in an operation, if possible. The doctor reached his brother's house at night, and had the pleasure of seeing his little nephew get comparatively a good night's rest.

Jan. 19: Met Dr. W. Boyd by engagement early, but was agreeably surprised to learn how patient had spent the night; pulse, 90; respiration, 22; temperature, 98½.

In view of favorable progress thus far, the doctor advised a still further delay of the operation, taking the same hopeful aspect of the case which had prompted me in my actions on my first visit.

Considering the doctor's relationship to the family, I yielded to him the right of decision, especially as it was in full accord with my previously-conceived opinion. Upon a slight examination of the wound some more cerebral matter came away. We therefore resolved to treat it upon the plan begun by free drainage, antiseptic water dressing and bromide potass. liberally.

Not an untoward symptom has presented itself up to the date of February 25, 1884, but a steady progress, from all appearances, to a complete recovery. The wound discharged some matter, but rapidly healed by granulation; seven or eight pieces of bone have been discharged in all.

The little fellow was going about in some ten days. I permitted him to get up after two weeks from receipt of injury, leaving off the bromide after then. Never did he at any time seem to have any aberration of mind; but, to the contrary, was clear in mind and almost free from fever.

Below is a synopsis of his daily condition:

1884.	Jan. 17.—	Pulse,	96.	Respiration,	24.	Temperature,	97°.
	Jan. 18.—	"	84.	"	30.	"	98°.
	Jan. 19.—	"	90.	"	26.	"	98½°.
	Jan. 20.—	"	84.	"	25.	"	97°.
	Jan. 21.—	"	72.	"	20.	"	95°.
	Jan. 22.—	"	80.	"	22.	"	96°.
	Jan. 23.—	"	74.	"	20.	"	97°.
	Jan. 24.—	"	80.	"	22.	"	97°.
	Jan. 25.—	"	76.	"	26.	"	97°.
	Jan. 27.—	"	84.	"	28.	"	97°.
	Feb. 1.—	"	84.	"	26.	"	97°.
	Feb. 4.—	"	80.	"	26.	"	97°.
	Feb. 7.—	"	80.	"	24.	"	98°.
	Feb. 10.—	"	74.	"	20.	"	98°.

His progress was from this date good. The deviation from the normal comparison of the pulse, respiration and temperature was very marked in his case; the low temperature I attribute to the large quantity of potass. used, and think it had much to do with the favorable progress of the patient. The strange part of the case is there was, at any time, but little local or general inflammation. Sleeping and eating comparatively good all the time; at no time without appetite, and free all the time from nausea of the stomach. The wound began discharging in seven or eight days; progressed well to date. I met him walking some distance from home this morning, without any inconvenience whatever.

CASE II.—GUN-SHOT WOUND INJURY OF THE FOOT.

The following is copied from my note-book:

I was called to see Benny Wright on August 7th, 1882; found he had received a wound from a rifle ball through his right foot; the ball entered one inch from the plantar surface, about half-way between heel and inner malleolus, passed diagonally across the foot, ranging up so as to bisect a line drawn from bottom of external malleolus to second phalanx of the big toe; hæmorrhage was free, the os calcis and cuboid bones were wounded, the ball probably passing above the articular surface of the os astragalus with os calcis. This character of wound frequently requires amputation of the foot. However, the patient took time by the forelock and refused amputation under any circumstances; therefore I refused to probe the wound, believing that wounds do best that are probed the least.

This wound healed entirely in six or eight days: healed by the first intention. The wound did not matter any, nor did the foot even swell but little from local inflammation. I consider this case of interest for two reasons: 1. Being one of gun-shot wound healing by first intention, which must necessarily be extremely rare. 2. The mode of receipt of injury may be of some interest in a medico-legal point of view.

The facts are these: Mr. B. Wright met Mr. W. Castlemand in the public road where there was a glade of rock; they entered into conversation with each other, Mr. Wright, in the meantime, still holding his squirrel rifle upon his shoulder; accidentally letting his hand slip his gun fell behind him, completely reversing ends, the hammer striking a rock in the road, the gun fired, and he was shot from behind in the manner above explained, the muzzle being sufficiently far from his foot not to leave any powder-stains; the man in front came near being shot, judging from the positions of the two, as explained to me.

I attribute the rapid healing of this wound to the short distance from which it was received; the velocity of the ball being so great that it literally bored a hole through this cancellated structure of the soft bones without splintering or fracturing them, except one spicula of bone, which I removed from the wound of exit. Age of patient, 27; health good; being one of four in same family who had accidentally received gun-shot wounds, and all recovering.

Article IV.—Treatment of Labial Cysts by Setons. By Ephraim Cutter, M.D., New York.

Many years ago the late Dr. B. Cutter, of Woburn, Mass., treated a cyst of the left labium major, which was of the size and shape of a testicle, by passing a coarse silk suture through the vaginal mucous membrane on the inside, penetrating the cyst and emerging through the skin among the hairs outside. The ends of the suture were tied together, and the suture was left in like a rowel, as used in veterinary surgery. The needle used was one of Charrière's, with an arrow head, below the broadest portion of which is an eye for the thread, which opens outwards by a slit running longitudinally forwards. In a few weeks the cyst had become emptied, and its walls consolidated around the silk. A gristly elongated nodule was all that could be felt when the suture was withdrawn. This cure was permanent.

Case 2 was cured in like manner by me ten years ago.

Case 3 was lately treated, After a few weeks the seton became untied and worked out. The cyst was apparently obliterated. It returned. I then passed through a silver wire which was soldered to a three-sided needle. The ends of the wire were twisted together securely. This suture remained in about three months. On its removal the cyst was found to be obliterated into a small elongated nodule that felt like a section of an artery. Sufficient time has elapsed without any return to justify the opinion that the case is cured, though a medical friend who saw the case said that the course above adopted would fail.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

Diphtheria Spread by Adults.—Dr. A. Jacobi, in an article published in the *New York Medical Journal*, September 27th, expresses his opinion, says the *Boston Journal*, that the cause of most cases of diphtheria is to be found not in defective sewerage and damp walls, but in contagion from some individual sick with the disease, and expresses the opinion that many of the sore throats, which do not confine their owners within doors or interfere with their business, are, in point of fact, diphtheria, and capable of reproducing themselves in other individuals. While a tonsillar diphtheria is attended with scarcely any danger, the same disease in the larynx destroys a child by suffocation, and in the nasal passages is fatal by sepsis. No matter how slight a case is at first, it may extend to nose or larynx, and in another person it may generate the most malignant form of the disease. It does not find lodgment in every person exposed to it any more than measles or scarlatina. While a cannon-ball, however, may miss, a pistol bullet may carry destruction. "Such a bullet," says Dr. Jacobi, "is many a case of the so-called follicular amygdalitis (tonsillitis). There is such an affection as deserves the name. It implies a catarrhal or suppurative condition of a tonsillar crypt, or several of them. It may be obstinate and extend over years, giving rise to constant returns of the secretion, or to concretions. In the acute stage, even in the chronic, it will permit of the introduction of a probe into the duct to a depth of from one to two centimetres. The color of the secretion is often that of a membrane, not its nature, nor consistence, nor location (still it may become diphtheritic even inside the duct), and in that condition it is not diphtheria. But the large majority of cases which are commonly called follicular tonsillitis do not belong to this annoying but innocent class; most of them are diphtheria. Not everything not fatal need be called by a different name. What to-day looks like a point or four or five points covering the outlet of ducts may to-morrow be a confluent membrane. Just as well you might withhold the name of variola from a case of small-pox so long as it was not confluent or did not destroy life. You have a family sick with affections of the throat and nose; a child is dying of laryngeal croup; another of nasal diphtheria, glandular swelling and sepsis; others have severe pharyngeal affections; others but slight tonsillar tufts, which may or may not coalesce and extend into membrane. Is the first one 'croup?' are the others 'diphtheria?' is the last one 'follicular amygdalitis?' Or the first case in a family was just such a one as was denominated tonsillar folliculitis by the family physician, and no preventive measures were taken to protect the rest of the little flock. From that moment it was that extermination began in that family. We have all seen it; we ought to heed it all." Some of the mild cases of diphtheria, according to this writer, are most prolific of danger, because they are apt to assume a chronic course without losing their contagious nature. Instances are referred to where they have continued six or even nine months. While not depreciating the importance of domestic sanitation, Dr. Jacobi lays strong emphasis on the importance of examining the nares and throats of all attendants. He says that a family with children ought to insist upon the occasional inspection of the throats of their help. Servants with chronic pharyngeal catarrh must not be hired. A seamstress, coming for an occasional day's work, ought to have her throat inspected; cooks and nurses must be looked after, the more carefully the less such people are inclined to give way to their pains or ailments or throw up their places. A sick nurse introduced into a family must be examined; she will go from one place to another and carry pharyngeal and puerperal diphtheria. Thus, if there be any class of persons who are the constant transmitters of diphtheria, and require attention and caution, it is nurses and cooks; in fact, all domestic help. So do sick-nurses, teachers, hairdressers and barbers, shop-keepers, restaurant-keepers, and all those people who are in constant contact with all classes and ages. The physician enjoys a certain degree of both active and passive immunity, but it depends on the number and duration of his exposures whether he becomes more or less both endangered and dangerous. There is as much diphtheria out of bed as in bed; nearly as much out of doors as indoors. Many a mild case is walking the streets for weeks without caring or thinking that some of his victims have been wept over before he was quite well himself. The main points in the address are thus condensed: "There is, probably, no spontaneous origin of diphtheria any more than there is a spontaneous origin of cholera or scarlatina. Diphtheria is contagious. Severe forms may beget severe or mild forms. Mild cases may beget mild or severe cases. What has been called follicular tonsillitis is mostly diphtheria. It is seldom dangerous to the patient, as the tonsils have but very little lymph communication with the rest of the body. But it is contagious. This form is frequent in the adult, in whom it loses nothing, however, of its contagiousness. Diphtheria in the adult proves dangerous to the community mostly because it does not restrain the patient from communicating the disease. It is apt to last long; firstly, because most cases occur on a surface covered with pavement epithelium (tonsils); secondly, because of the constant exposure and neglect on the part of the patient. Even without it, diphtheria may last weeks and more; with it, it is subject to sudden relapses. As long as it lasts it is contagious. As diphtheria is but a mild affection in many adults, who disregard it, and frequently do not care to mention its existence, pain in swallowing and moderate malaise being the only symptoms, the question of transmission by means of clothing, etc., on the part of third persons, is capable of becoming more difficult to answer than it ever was. Many a case which has been believed to be thus carried is, probably, one of direct contagion from a patient to a second person, from this second to a third."

USE OF CHLOROFORM IN LABOR.—The following interesting extracts are from a paper by Dr. John Herbert Claiborne, of Petersburg, Va. (*Journal of the American Medical Association*), his observations being founded upon the study of two hundred cases conducted under chloroform: . . . . Several practical questions arise in discussing the propositions that I have submitted, and amongst them: 1. Should chloroform be administered in every case of labor? I reply, no. There are some cases of labor in which the pain is insignificant; some in which there is no pain. I have patients in my clientèle who, in repeated labors, have assured me that the process in no stage was painful; that the sensation amounted to nothing more than an operation from the bowels when somewhat constipated. In others, the pain is so slight as to require no alleviation, and the process of delivery so prompt as to call for no interference. Such exceptionally happy cases need no further blessing. But such cases are indeed exceptional. As a rule, the act of parturition may be fitly termed, as it has ever been termed, an agony, from the Greek, a struggle as if in the pangs of death. Such pain appeals to every human heart for help, and every human instinct compels us to render it. Not only so, but the rational requirements of sound practice demand that we arrest at once this fearful suffering, this terrible irritation of the terminal nerves of that tender organ, which in the woman is the throne of the sympathies. *Ubi irritatio—ibi fluxus;* and what fatal changes wait upon those processes so easily and so rapidly converted from the physiological into the pathological! Dr. Dickson, of Charleston, used to say that he always tried to kill pain wherever he found it, as he always tried to kill a snake. Both are the enemies of the human race, hereditary, traditional, implacable and mortal. Kill the pain and cure the patient. And what will kill pain so quickly, so thoroughly and so efficiently as chloroform? Not only so, but in an instant you transport the patient from the throes of martyrdom into the ecstasies of the blest. But secondly. Another practical question arises. At what time or at what stage of ordinary uncomplicated labor should we commence the exhibition of chloroform? Certainly not until labor has surely and unequivocally set in—not until the lips of the os uteri have thinned out, and the process of dilatation unquestionably begun—not for those dragging, nagging pains--aggravating and distressing, but not genuinely the pains of labor, only the precursor of those pains, and partaking of the nature of neuralgia of the sacral plexus and its diversified connections. Chloroform would nullify these pains too—as it does all other pain when pushed to its limits. But we do not propose to administer chloroform for mere neuralgia. For these pains we rely upon bromide of soda or potash, and the hydrate of chloral, twenty grains of each every hour until a drachm of each is taken, if so much be necessary to secure relief; the former agent for its special action upon the spinal centres, and the basic ganglia; the latter for its effect upon the higher centres of cerebral origin, a combination of rare power and one which has rarely disappointed me. Chloroform administered under these circumstances doubtless does retard labor, and postpones all of its processes. But withheld until the process of dilatation has clearly begun—or better, until the circumference of the os has attained to the size of a half dollar—and the use of the anæsthetic will not only facilitate, but will hasten the act of opening to completion. More than that, it will obtund and render endurable those trying pains that inaugurate and accompany the first stage of labor, and which many women declare to be more harrowing than the agony and throes of the second stage. And in the first stage it is not always, indeed, it is not often, necessary to push the anæsthetic to the induction of unconsciousness. Administered even in very small quantities, it assuages these pains to an extent which enables a woman to bear them with patience. In this stage it is best that it should be given intermittently—be given as the pain comes on and be taken away as the pain goes off. Should the os, however, prove especially stubborn and refuse to dilate, then chloroform, to the extent of inducing complete anæsthesia, will often relieve the difficulty by bringing on relaxation of the circular fibres. It will generally do so, and thus may often obviate the necessity of antimony or venesection, even in the plethoric and full-blooded. It will very rarely fail to do so if preceded by a full dose of chloral and bromide of potash. But now, when the first stage has terminated, when the os is fully dilated, and the head of the fœtus commences its descent through the pelvic passage, a condition of things which the experienced accoucheur can often recognize without vaginal examination, by the subjective symptoms, by a change in the character of the complaint made by the patient, or by a sort of lull in the storm—the woman realizes as a rule a temporary relief, and often falls into a short sleep—very short, it may be, but very refreshing. In this state, what shall we do with the chloroform? may be asked as a third question. Take it away, of course. Dispense with the anæsthetic for a shorter or longer time, according to the urgency of the recurring pains. Some women in whom the expulsive pains of the second stage are merely expulsive efforts, and not pains, and who do not dread this stage of labor at all, call for the chloroform no more. In such cases no anæsthetic is necessary, and, if not necessary, its administration, of course, is not judicious. But unfortunately for humanity, these painless cases of labor are not often seen in the obstetric chamber. Generally, when the hard head commences its downward career through the pelvic arc, pushing along, crushing along against the irritated nerve plexus lining that sensitive channel, and caught by a resistant perinæum, is hurled back time after time, then the true agony is begotten, which calls for human sympathy, and demands human help. What heart so hard as to withhold chloroform in that hour of bitterness and despair! And in that last fearful pain, invoked by a long-suffering perinæum, just as its last attenuated fibres are stubbornly yielding to the force of those final throes, which threaten in their violence the very dissolution of nature, who can stand idly and unmoved, and yet know that he holds the remedy for it all in his own hand? Not I. Nor am I satisfied how to assuage the suffering. I abolish it. Chloroform, then, as the bleeders say, *ad deliquium animi.* I give it to full unconsciousness. Nor have I ever seen it arrest or delay the labor in this event. I have often thought it gave full play to, if it did not help the expulsive efforts at the last. At the same time it relaxes the perineal tissues and diminishes the danger of rupture. I have never, except on one occasion, seen a torn perinæum under the full influence of chloroform, and that occurred from the careless handling of a pair of long forceps. I can only account for this fact of muscular relaxation and tissue relaxation under the use of chloroform, and yet persistent and increased uterine action, on the ground that the diminished sensitiveness of animal function more readily permits, if it does not increase organic or ganglionic action. I have had a patient say to me more than once, "Doctor, give me enough chloroform to prevent my feeling the pain, and I can bear down better. I can't help bearing down." What does that mean, and what does that teach? The most striking illustrations and the most positive proof which I ever had of this fact I derived from the case of a lady whom I once attended in a condition of intoxication. She had at two previous labors most painful and tedious delivery—under use of instruments—and some wise person had told her that if she "would drink half a pint of the best whiskey, just as her labor begun, that she would not get drunk, and yet that she would not feel her pains!" I was called to her some fifteen minutes after she had taken the whiskey, and was told by the nurse what had occurred. She was even then too much under the influence of the potion to recognize me or to speak to me, and soon after passed into that semicomatose state known as dead drunk. An examination revealed the os dilating. I remained by her side for six hours, and during that period every stage and process of labor was consecutively and regularly developed and completed, and the child born alive and well! Yet, with the exception of uterine dilatation and contraction, and general muscular contraction attendant on the expulsive effort, there was no more manifestation of life in the woman than could be seen in the delivery of a mannikin! Not one sound or cry was made, nor was there the slightest facial expression of pain, or of any other emotion, during those six long hours, nor for six hours afterwards; nor when, after some difficulty, she was finally restored to consciousness, did she remember or could recall one single incident of her accouchement, except that "on a friend's advice she had drunk the liquor after preparing her bed." I had attended this lady before, and I have attended her in several consecutive confinements, but I have never known her to have so safe and so unexceptionally a normal labor as on that occasion. I do not, of course, intend by these remarks to endorse the use of the anæsthetic which she adopted, or to commend the use of any anæsthetic to the extent to which she carried it, but draw the logical and inevitable conclusion that anæsthesia, even to the utter abolition of all signs of sensibility, may be safely induced, and that it does not necessarily arrest or retard the obstetric process. More than this—it does not prevent, but does, in my experience, incite firm uterine contraction, sometimes to an unpleasant extent in the third stage of labor, thereby diminishing the risk of post-partum hæmorrhage, by expelling uterine clots and facilitating uterine involution. I mean by this statement to say that, in many cases in which I have used chloroform most freely, in the first and second stages of labor, the third stage was marked by unusual and persistent uterine action—the patient exclaiming in several instances, "Doctor, I cannot stop bearing down; I feel as if I should be compelled to force the womb through the pelvic 'passages.'" And now arises another practical question: Should the use of chloroform be continued in the third stage of labor? As a rule, I answer No, but in exceptional cases Yes. In puerperal convulsions, for instance, it is the sheet-anchor of the accoucheur, and I know of no remedy which can replace it. Venesection in the plethoric and chloral hydrate in all cases are most valuable adjuvants in such complications; but, if confined to one sole remedy, I should select chloroform. Theoretically and practically it meets every indication. In cases of retained placenta with rigid closure of the os, and in cases of hour-glass contraction I can conceive of circumstances which might justify or demand its exhibition. I have no experience of its use in either case. Finally, that in all cases of complicated labor, demanding manual or instrumental interference—turning, or the use of forceps, or perforation—anæsthesia is imperatively demanded, admits of no question. All are agreed, I presume, upon that subject. It only remains to inquire what form of anæsthetic we shall adopt. In every instance in which I have used the word I have wished it to be understood that I meant chloroform pure and unmixed, such as that prepared and furnished the Profession by Dr. Squibb, of Brooklyn. I think it vastly better than sulphuric ether in obstetric practice for the following reasons: 1. It requires a much smaller quantity of the agent to induce the same amount of anæsthesia. 2. It produces the same degree of anæsthesia in a much shorter time. 3. It acts with much more certainty. 4. It is not followed by the nausea and vomiting which are so frequently the results of the use of ether. 5. It does not act so often as a stimulant, inducing the peculiar intoxication or hysterical excitement which is common in the exhibition of ether. I have been surprised, however, to read in a note by the American editor of Playfair's "Midwifery" (last edition, p. 291), that "in the United States chloroform is rarely used in obstetric practice, as compared with pure sulphuric ether, and anæsthesia is much less practised than it was soon after its introduction." This certainly does not accord with my observation or experience. I cannot undertake to speak as he does for the whole "United States." But I am sure that when he speaks for the geographical section of that country which I have the honor to represent, he speaks without the book. In general surgical practice we use less unmixed chloroform, preferring in many instances either the washed ether, or a mixture of that with chloroform and alcohol—something like the Vienna mixture; but we have not discarded the use of chloroform even in general practice by a large majority. In obstetric practice I do not know of one physician who substitutes chloroform by ether. I have occasionally used it, for the reason that it was not convenient to procure the chloroform and the ether was at hand; but I can see no special advantage in the use of ether, but the marked disadvantages which I have enumerated. Besides, if, as the editor referred to contends, inertia of the womb occasionally follows the use of chloroform, it must also follow the exhibition of ether likewise (loc. cit., p. 292), and we are not the more apt, therefore, to have post-partum hæmorrhage after the one than after the other. In addition, though under the use of chloroform in general surgical practice many a death has occurred, or rather been published, who has witnessed or recorded a death from the use of chloroform in obstetrical practice? Now, whilst I am unwilling to array myself anywhere in this discussion, anywhere except on the side of safety and conservatism, yet, before the annunciation of the American editor of Playfair's "Midwifery" be accepted as authority, I would urge that the Profession at large earnestly and generally inquire into the truth of the propositions which I have had the honor to submit for the consideration of this learned Body. And if a woman is to be robbed of this inestimable boon in her hour of agony, and the lying-in chamber is to be reconverted into the hall of torture, let me meet her there with the painful and sorrowful assurance that wiser men than I have decreed that she must submit to the irremediable and the inevitable.

On the Action of a Secretion Obtained from the Medicinal Leech.—Professor John B. Haycraft has given in the Proceedings of the Royal Society some very interesting results of his investigations into this subject. It has long been a difficult problem to solve in the study of the coagulation of the blood as to why the blood stripped from the leech after his application to man in "leeching" should remain fluid, and why there should be a tendency to the oozing of liquid blood from leech bites. Dr. Haycroft acted upon the idea that probably the leech secretes some ferment containing juice which antagonizes the blood ferment, thereby preventing coagulation within its body, and enough remaining around the edges of the wound to prevent the outflowing blood from clotting until the leech ferment is all washed away. To decide this question, the gullets and buccal cavities of leeches were taken, cut in small pieces and placed in a salt solution, resulting in an extract of leech of a faint greenish-yellow tint and an alkaline reaction. This was found, when applied to freshly-drawn blood, to prevent coagulation. The extract was then boiled, but its characteristics remained unchanged, showing that it was not a ferment. Its active principle is insoluble in chloroform, ether, benzole and alcohol, and could not be separated in a pure form. The blood-coagulating ferment was then separated carefully from blood, and one part (*a*) treated with distilled water, the other part (*b*) with leech extract. On being added to hydrocele fluid *a* produced a satisfactory clot, *b* not producing coagulation. Hence the action of the leech extract is to destroy the blood-coagulating ferment. Fresh blood mixed with leech extract and placed under the microscope showed that while coagulation was prevented the corpuscles were not influenced, the red forming rouleaux as usual, and the white exhibited the normal amœboid movements. Careful microscopical examination of the parts of the leech involved failed to show any glandular structure. The secretion is probably derived from the epithelial cells lining the sucker and buccal cavity; it may be that unicellular glands of the sucker share in its production. The injection of this leech extract into the veins acts similarly to the injection of peptones in the non-coagulability of the blood, acting on dogs and rabbits alike. In the coagulation of milk it has no influence, but it hastens the coagulation of myosin, and probably, when it causes loss of contractility in a muscle, it is, due to this fact, inducing rigor mortis, the essential phenomenon of which is clotting of the myosin.—*Journal of the American Medical Association.*

INVESTIGATIONS OF DR. KOCH—DEFENDING HIS THEORY OF THE CHOLERA BACILLUS.—The *Medical Record* of November 29 contains an article on "Koch's Defence of the Cholera Bacillus." Immediately after Dr. Koch's announcement of his discovery of the specific microbe of Asiatic cholera, the comma-bacillus, there appeared in the medical Press articles expressing doubts concerning the diagnostic importance of the new organism. The distinguished German doctor has published a comprehensive reply to these criticisms, in which he adduces new evidence in support of his former claims. From this evidence it would seem that the burden of proof now rests with those who deny or dispute the validity of Koch's statements! He shows that the comma-bacilli can be recognized as such only through the totality of their properties. Any single attribute, such as their peculiar shape, is not sufficiently characteristic to differentiate them from other and quite possibly harmless bacteria. The alleged comma-bacillus ordinarily found in the mouth has long since been examined by Koch without discovering any relation between it and the cholera microbe. In a rapidly fatal case of arsenical poisoning, when the intestines and their contents showed naked-eye appearances closely resembling those of true cholera, no comma-bacilli could be detected. Koch further states that in three cases of undoubted cholera morbus he found an abundance of comma-bacteria, but in no single instance any comma-bacilli. To crown all, cholera or fatal choleraic symptoms have been experimentally induced in various animals by the introduction of pure cultures into their intestines. Almost invariably the dead animals showed an abundance of the characteristic comma-bacilli in the intestinal tract. Koch emphatically reiterates, therefore, that the comma-bacillus is the specific microbe of Asiatic cholera, and does not occur in health or in any other disease. Apparently the only position now open to doubt as to Koch's theory is that of denying the specific character of the inoculated disease. Dr. Edmund C. Wendt, of this city, in a paper respecting the cholera visitation this year, calls attention to the absolute necessity of efficient action by the health authorities of New York and the country. He adds: "In view of recent discoveries it now seems possible to decide positively and in a very short time whether we are dealing with the comparatively benign cholera nostras or with the malignant Asiatic cholera." He advises the Government to follow the example of European Governments and select a number of medical men to proceed to Berlin and go through a course of study lasting a few weeks to learn the new methods of bacteria investigations. If this is impracticable, he recommends the State Boards of Health to organize suitable laboratories for this kind of study and research, and thus give to America expert teachers of bacterioscopy, which should be made an essential and obligatory part of the regular medical curriculum.

CHOLECYSTOTOMY; WITH A REPORT OF TWO NEW CASES, A TABLE OF ALL THE HITHERTO-REPORTED CASES AND REMARKS.—In the *American Journal of the Medical Sciences* for October, 1884, Drs. J. H. Musser and W. W. Keen publish a carefully-prepared and instructive article on cholecystotomy, in which they relate two new cases, with a table of all the hitherto-reported cases, thirty-five in number. The first case was that of a man, æt. 32, who had had attacks of biliary colic for five years, followed by jaundice, until he was reduced in strength, and had chills and fever threatening life. Dr. Keen attempted cholecystotomy, the incision being made over a region of dulness believed to be the gall-bladder. This dulness was found to be due to an inflammatory mass, which glued together the gall-bladder, colon and intestine. No stone could be detected. The wound was closed, and recovery ultimately followed a course of Hathorn water at Saratoga. The second case was also that of a man, æt. 31; gastro-intestinal catarrh followed by jaundice, enlarged gall-bladder, and symptoms of internal suppuration. The enlargement of the gall-bladder was demonstrated by the hypodermic needle, but the fluid was not bile. Dr. Keen performed cholecystotomy, using a hollow-handled spatula to drain off the twenty ounces of fluid contained in the gall-bladder. The gall-bladder was found to be seven inches in depth, but neither by finger nor probe could any gall-stone or the orifice of the duct be found; a biliary fistula was established, and bile was discharged through it the next day. The patient died a week later of exhaustion. The *post-mortem* examination revealed inflammatory closure of the cystic and common ducts at the mouth of the gall-bladder and at the duodenum. Dr. Musser in his medical comments analyzes at length the causes, the symptoms and diagnosis of biliary obstruction, under the heads of jaundice, tumor, pain and suppuration, especially in relation to gall-stones and other foreign bodies and diseases of the ducts. He points out the means by which a just conclusion may be reached, and that cholecystotomy should be resorted to early in the case rather than wait till the blood is disorganized and the liver softened and made functionally useless. Especially is this true in view of the low mortality of the operation, there having been (excluding Gross's incidental case) only nine deaths in thirty-four operations, and of the fact that Mr. Tait has done thirteen operations, by far a larger number than any other operator, all of which have been successful. In his surgical comments, Dr. Keen discusses the surgical means of diagnosis by aspiration, with or without probing through the canula, and by acupuncture, both of which, when properly done, he commends. He also strongly urges an early laparotomy, followed at once by cholecystotomy, if found advisable, and condemns the attempts to provoke or to wait for adhesions. Indeed, upon this disregard of adhesions hinges the whole of our modern progress in abdominal surgery. He points out that to Bobbs, of Indiana, and to Sims, both American surgeons, is due the credit of first performing and practically perfecting the operation. He advises the formation of a biliary fistula, rather than sewing up the gall-bladder, and disapproves, as a rule, of a removal of the gall-bladder, as adding a new and usually a needless danger.

[NOTE.—These are cases for "Gaston's operation."—ED.]

MUMPS AS A CAUSE OF SUDDEN DEAFNESS.—Disease of the ear during the progress of acute infectious disorders is a not infrequent occurrence. Especially are suppurative inflammations of the middle ears common during the progress of scarlet fever, and non-suppurative inflammations are a frequent attendant upon the progress of measles. The nature and treatment of these ear diseases are well understood. But occasionally during the progress of mumps a sudden and complete loss of hearing occurs, which is not so well known, either as to its nature or its treatment, and a paper on the subject from the pen of Dr. Leartus Connor, of Detroit, which appears in the October number of the *American Journal of the Medical Sciences*, is both timely and instructive. As the result of his personal experience, and of the study of thirty-three recorded cases, Dr. Conner concludes that: 1. Mumps does in some rare cases produce complete deafness. 2. This deafness is usually attended with all the evidences of disease of the labyrinth. 3. These show that it sometimes begins in the cochlea, but more frequently in the semi-circular canals. 4. Owing to the lack of early observations and treatment it is impossible to say that it is not transmitted through the middle ear from the parotids to the labyrinth. 5. The history of some of the cases would seem to suggest that such an origin was possible. 6. This possibility renders it very important that every case of deafness during an attack of mumps be at once carefully examined, so as to settle the question. 7. This possibility offers the only hope for the successful treatment of these cases so as to prevent deafness. Thus, if there be a middle ear disease, we might hope that revulsive and counter-irritant treatment would arrest the disease and save the labyrinth. 8. As to treatment of the labyrinthine disease, nothing has thus far been devised that has produced any satisfactory result.

COLOTOMY, WITH A COLLECTION OF THREE HUNDRED AND FIFTY-ONE CASES.—A retrospect of the operation of colotomy is of marked interest; proposed and rejected, it was apparently forgotten, then revived and modified successively by several surgeons in its day; and, although over a century and a half has been consumed in its progress, it is even yet far from being in its true position amid the heroic measures of modern surgery. Such a retrospect appears in the October number of the *American Journal of the Medical Sciences* from the pen of Dr. Wilmer Ridgway Batt, of Phœnixville, Pennsylvania. A surgeon who subscribes to the doctrines that an artificial anus should not be made in the case of imperforate anus is not justified in doing so on any principle of morality, since upon him rests an imperative obligation to employ to the utmost of his ability the means placed at his command for the relief of human suffering and the prolongation of human life. When we likewise consider of what vast importance is the prolongation of life in a human adult, and how vast may be the concerns which hang upon such an event, we find the same imperative duty no less binding. To obviate death from overdistension of the bowels, which is one of the most painful and distressing terminations of life, colotomy will be justifiable under conditions of the greatest gravity; and may be indicated in any obstructive complication of the lower bowel which has passed beyond the power of local remedies, and in which a judicious trial of medical improvement has failed to afford relief. Mr. Phillips, of London, tells us that one case of intestinal obstruction occurs in every one hundred deaths, and from 139 cases of obstruction which he collected, in which surgical aid was not given, 133 proved fatal. The fact that such a terrible fatality as this should exist, and an operation affording the advantages of colotomy be unperformed, must ever be a shadow upon the honor of modern surgery. The technique of the operation is fully discussed, and elaborate statistics are presented which show most conclusively that the dangers of the operation are very few, and that the number of recoveries depends very greatly upon the nature of the affection for which it is performed.

ORIGINAL TRANSLATIONS.

DOUBLE OR BIPOLAR UTERINE FARADIZATION. By Dr. G. APOSTOLI. Translated from the *Union Médicale* of October 28th, 1884, by H. McS. GAMBLE, M.D., Moorefield, W. Va.

GENTLEMEN: The application of the induced current into the therapeutics of the diseased uterus is beginning to be admitted into medical practice; opposition and prejudice are commencing to give way, and we can already foresee the moment when the method will become entirely classic. It wants but a sort of official endorsement, and I hope this will not be long in coming; for in France, unfortunately, we are, and we continue to be, administrative. A discovery needs for its scientific diffusion, solid and durable, the sanction of authority. Such is, in fact, the history of the greater part of the innovations introduced by those whom I will call the great irregulars of medicine; and, to cite but one example, have you not all seen, for he formed part of your society, that great unknown who has had to wait almost until the last hour to hear his name and his works recognized scientifically, and who was not able to be present at the apotheosis which hands formerly rebellious now come to erect to him? I mean Duchenne (de Boulogne).

Well, gentlemen, by the side of this name I desire to place that of another physician, of whom I, better than any one, am authorized to speak, being his pupil and his friend: I refer to Dr. A. Tripier. I will not undertake to-day to describe to you his whole practice, I will only direct your attention to an instrumental modification of his operative procedure, while trying to impress upon you all the clinical importance that it possesses in my eyes.

The method of Tripier, in fact, if it is inattackable in its theoretical interpretation and its clinical results, has produced in my mind several inquiries which have resulted in a complete change of his operative technique. I give their point of departure and their justification.

Whoever has made many faradizations of the uterus, and I believe, after Tripier, that I have made the most, for the number amounts to several thousands, cannot fail being struck with the resistance, sometimes very great, which certain patients present, and with the operative difficulties which one encounters.

The procedure, in fact, is painful, and I have in view here above all only the utero-supra-pubian or abdomino-uterine and sacro-uterine procedure, applied more especially to the treatment of simple engorgement or of metritis. It is at the cost of suffering that the patient obtains her improvement and her cure. But is it always within possible limits? This is the great question. Tripier answers Yes, and the paternity of his method renders him perhaps deaf to some of the cries of his patients. But, should I rebel a little against my master, independence compels me to confess that sometimes the procedure is painful, very painful even, and that I have seen it intolerable upon some patients. The pain, in fact, is double, for each pole has its own: that which is in the uterus and that which is applied upon the skin. We shall pass them in review one after the other.

Let us consider first the uterine pole.

To the same quantity of uterine faradization, to the same electrical intensity, uteri respond very differently. One woman bears the pain without complaining and without difficulty, another screams out, is agitated, and sometimes renders all faradization impossible. Between these two extremes intervenes every variety of different degrees, and this ought by no means to surprise you, since you know by experience how differently women support labor as far as regards the pain, how variable this factor is in all, and capable of presenting in the same woman such marked differences at different ages.

But the uterine pain is not the only one which may be provoked by the electric current. By the side of it stands, upon a still higher plane, the cutaneous pain, which results from the application of one pole, under the form of large electrodes, most frequently above the pubis, sometimes to the sacrum. This pain is the most poignant and the most acute, and it is to the doing away with it that I have especially devoted my attention, for around it gravitate almost all the inconveniences attached to the method, and which you will immediately appreciate.

In effect, if the procedure is painful in itself, it is still another torture to impose upon the patient the task of holding with her own hands the instrument of her punishment, as in the supra-pubic operation. In the hospital or at a clinique assistants are not wanting ; but in the office the patient, being alone, must of necessity hold the electrodes, which presents several painful inconveniences. The minimum of sensibility on the part of the skin is secured by an energetic application of the electrodes, with a sufficiently strong pressure, equal and uniform during the whole séance. Every variation in this respect, every electrode slightly raised or unequally applied, immediately determines a considerable increase of pain, due to the fact that the resistance of the skin becomes greater, for these two terms, resistance of the skin and pain, are here proportional.

The obligations imposed upon the patient, whom the operator cannot assist, occupied as he is himself in holding the uterine sound, are sometimes beyond her strength, and render difficult the perfect execution of the operative procedure habitual with Tripier, without diminishing in the least the pain of the procedure.

Is that all ? Certainly not. And here is the most annoying clinical consequence which results from it. If the patient suffers, and sometimes in an intolerable manner, the operator is forced to do nothing hastily, to act slowly, with *parcemonie*, and to stop at very small electrical doses ; but as the uterine contractility is, in a general way, in direct ratio to the electrical intensity expended, we can lay down almost as a rule that to a little dose will respond a little contraction, and that this latter will increase with the intensity.

Thus, then, the following dilemma imposes itself sometimes : either to do harm, though it is to attain the desired end (that is to say, the contraction of the uterus) ; or to do the least harm possible, and thus render the operation almost illusory in its clinical and therapeutical results. Here you see exposed, in all truth, the method of Tripier, perfect in its object, but sometimes defective in its means of action.

To sum up, the method of uterine faradization, applied to the treatment of simple engorgement or metritis, has been up to the present day almost exclusively the utero-supra-pubic or abdomino-uterine, and sometimes the sacro-supra-pubic procedure. Well, I affirm that these procedures are sometimes too painful, and consequently of difficult execution, often terminating in an incomplete efficacy.

Can we do better ? I believe so, and this is the modification that I desire to propose to you : To replace unipolar faradization alone employed until the present time, a single pole being most frequently in the uterus, by double faradization, both poles concentered in the womb. The sound which I have had constructed for this purpose is identical in shape and size with the sound of Tripier, the extremity of which alone is denuded, but it differs from it in that this extremity encloses the two poles separated by an isolating substance. The application of the current is made as usual by the head of the sound, and the stem is composed of two metallic cylinders separated from each other by a non-conductive tissue, and each one leading separately to one of the metallic extremities of the sound. The management will then be identical to that extolled by Tripier ; the sound will be carried into the uterus and held, as much as possible, in contact with the anterior wall of the organ.

You immediately perceive all the advantages due to this operative modification:

1. Suppression of the cutaneous pole.
2. Concentration within the uterus of the whole electric action.
3. More facile operation, which no longer requires either the concurrence of an assistant or that of the patient to hold the electrodes.
4. Diminution of the pain consequent upon the removal of all application of the current to the skin.
5. More ready generalization of the method, by reason of its facility and of its more complete execution.
6. Greater efficacy, in consequence of the possible increase of the uterine contractility, being granted, the facility, whilst doing less harm, of employing a stronger, more intense, and consequently more active current.

Clinical experience has fully responded to my theoretical previsions. For a long time since I have been employing this new procedure, in an exclusive manner, at my clinique and in my office, and I have many times been able to demonstrate by comparison to what extent it was preferred by the women, from the simple fact that it diminishes the pain, that it is more convenient, and to that extent it has seemed to me to hasten the cure of the metritis.

This last consideration demands a justification, which I am going to give you. You all know how different is the contraction of muscles with smooth fibres and that of muscles with striated fibres; how active and immediate the one is, and how slow and sluggish the other often is. The contraction of the uterus in a state of vacuity has given rise to many contradictions and to many controversies, which have again recently been re-echoed in the communications of Dembo and of Onimus (Académie des Sciences et Société de Biologie). To deny it in women would be, in my opinion, to deny evidence, especially when one has administered electricity to many women, and when one has been able to grasp it and feel it manifestly at the end of the sound. One thing that is incontestable is the variability of the contraction as regards the time and intensity. In the case of one woman a few moments are necessary to obtain it, in that of another it comes almost immediately; as to its force, its power, the same differences are observed. Here is one prime clinical fact acquired.

Experiments upon animals have taught us another very interesting fact, it is that this contraction rarely takes place *en masse*, as in muscles of striated fibres; it takes place, so to speak, in spots and progressively—at first localized at the point of application, and then radiating more or less, according to the electrical intensity, to invade the whole organ.

From this fact, uncontested by all experimenters, is it not permissible, by way of deduction to woman, to draw this clinical inference: that by multiplying the points of contact of the current we will thereby multiply the electrical action, and that by concentrating the two poles in this organ we will have thus realized the maximum of action possible for any given dose? This conclusion, which I propose to demonstrate experimentally upon animals, appears to have been fully justified in woman by clinical experience; I also believe that my proceeding is less painful and more active.

In regard to the pain, I have learned one thing of which I was formerly ignorant, and which I have nowhere found mentioned: there is an absolute difference of electrical sensibility between the body and the neck of the uterus. I have, in fact, many times performed the following experiment: In the same patient I introduce at first my small sound in such a manner that it does not pass beyond the internal orifice; it is thus high up, with its two poles upon the neck, and it is not applied directly upon the body of the uterus. I note the pain provoked by a given dose of faradization, and immediately, without in any way changing the degree of this intensity, plunge my sound into the body of the uterus in such a manner that the two poles are now concentrated in the cavity of the body.

The change produced is constant and immediate; the pain, which was always pretty severe in the neck, becomes very tolerable, and sometimes entirely disappears in the body; and if, inversely, the counter-experiment is performed, by passing from the body to the neck of the uterus, the sensibility immediately undergoes an increase, which the woman testifies to in a more or less energetic manner. This fact is interesting in more than one sense, and it imposes the obligation, in order to procure the minimum of pain and the maximum of action, of plunging the sound into the very cavity of the uterus every time that it can be done.

As to the greater activity of this operative procedure, it has appeared manifest to me, and this is understood moreover, since the dose employed is often double what it was with the other. In the proceeding of Tripier, the medium dose of faradization is the induction obtained by the sheathing of the half of the cylinder (spool) of the apparatus which bears his name. Very rarely I have seen women bear the maximum, and here I understand always the maximum of the coil of large and short wire, or of the current of quantity, the only one employed in the therapeutics of the womb. As to the coil of fine wire, it has indications and a tolerance quite different. In the method which I propose, it is the inverse which is presented; the maximum is often attained, and it is only rarely that I am contented with a medium dose, especially when the sound is high up upon the body and neck.

But, you will ask me, is it very useful thus to increase the electrical intensity and to force the dose of the induced current?

I believe I can answer you in a word: That if uterine faradization has at times met with checks in the cure of metritis, it is due sometimes to the too feeble posology of the remedy employed.

To cite but one obstetrical example, uterine inertia, and above all uterine hæmorrhage, will be influenced more happily by the doses which I have recommended than by those employed daily, and which, in my experience, have sometimes been insufficient. This is my method; will it be free from all reproach? Tripier, who was ignorant of my researches, has already offered some, by anticipation, in the recent book which he has just published.

Here is his objection and my answer which follows. After having described the different methods of uterine faradization, he adds ("Leçons Cliniques," page 99):

"There is still another method of faradization exclusively uterine which I will remind you of, without advising you to adopt it.

"In certain cases of prolapsus, in which the engorgement of the neck was out of proportion to that of the body, and in others, in which the relaxation of the internal orifice of the neck was very marked, I have introduced the two rheophores into the uterus, sometimes by means of the double excitor in the form of a sound, sometimes by means of an annular excitor, which embraces the os uteri, and in the hollow stem of which glides a simple uterine excitor.

"This procedure presents the inconvenience of causing to the patient very unequal sensations. The two excitors being very near to each other, in a medium bathed in liquids, the currents are easily and unequally deflected, whence variations of intensity so much the more marked, as by reason itself of the existence of the deflections is it always necessary to employ energetic currents. This is a fault which has led me to renounce this manner of operating.

"There is not, in fact, an indication to cause the uterus to contract in its totality, which cannot be conveniently fulfilled by abdomino-uterine, sacro-uterine or lumbo-supra-pubic faradization. These procedures are not at all, or are but slightly painful (?), and they are more convenient of execution (?). Finally, it is not demonstrated to my mind that, as to rapidity of the results secured, they are sensibly inferior to those to which I have just briefly called your attention. So, after experiments made with both, I will advise you to hold to the first."

But his refutation is addressed only to the two instruments which he describes, and which belong to himself; it could not extend to the third, the one which I propose to you. The instruments of Tripier are essentially defective, and explain largely their abandonment from the considerations which he has formulated and the following:

The first double excitor in form of a sound has the very great inconvenience of having the two poles within the thickness itself of the sound, opposite to each other, almost touching, within one or two millimetres; the current must then find therein incessant interruptions or variations during its application, owing to the difficulty of retention and fixation of the sound, for upon the least displacement a single pole will be in contact with the uterine wall.

His second annular excitor, of which one pole embraces the os uteri, has, besides, the great inconvenience of being very painful, by reason of its application to the neck, and of its possible contact with the vagina.

My instrument, on the contrary, has the merit of having its two poles sufficiently distant from each other to do away with all fear of variation or interruption of the electrical intensity, since they are arranged in echelons the whole length of the instrument. In order to increase the action, I have had constructed several models of sounds in which the poles are at different distances, and the calibre of which likewise varies.

Can my procedure always be applied? I believe so, taking care to surround oneself by all the precautions which the subject bears and exacts.

Thus we ought, in the first place, during the whole treatment, to be on guard against a possible pregnancy, and to interdict all conjugal relations. But pregnancy itself does not absolutely contra-indicate faradization, as I propose to demonstrate later; there are even some cases in which it demands it. The sole and great care that it is necessary to observe is in the position of the sound. It is necessary to guard against introducing it into the uterus beyond the internal orifice. It is necessary to leave it in the neck and to hold it during the whole séance, immovable, with the aid of the hand, which should leave the index in the vagina, applied to the posterior lip.

In some cases of very pronounced flexion, when the uterus is found enveloped in an inflammatory matrix, and every displacement becomes painful and dangerous, it is prudent to make no effort to penetrate the uterus under such circumstances. The general and absolute rule is to abstain from any kind of violence; faradization, which is here but a kind of hysterometry, will yield all its fruits only at this price. The sound should be introduced, always without the speculum, upon the palmar surface of the index serving as a conductor, and placed within the vagina. It is important to hold it with an extreme lightness, to introduce it slowly—very slowly—without any effort, and to stop before every species of obstacle difficult to overcome.

Moreover, this is the whole secret of a good hysterometry. In the exposition which I have just given I have designedly passed over in silence the other methods of faradization used by Tripier in uterine deviations and flexions, which are the recto-uterine and the vesico-uterine.

I have had no other object to-day than that of conversing with you about the operative procedure applied to the treatment of metritis, the numerous indications of which are presented also in obstetrics after delivery. To sum up in a word, I have desired to do what is best by doing it most speedily, and with the least harm.

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Five Cases of Extra-Uterine Pregnancy Operated upon at the Time of Rupture, by Lawson Tait, Esq., F.R.C.S.—Mr. Tait has seen some five or six-and-twenty cases of rupture of extra-uterine pregnancy, and, having been encouraged by his success in the surgery of other abdominal diseases, resolved to try what surgery could do in these cases. For this treatment, of course, the main difficulty is in the diagnosis, but this is a small matter to Mr. Tait, who has now completely adopted the principle of always opening the abdominal cavity when he finds a patient in danger with abdominal symptoms. The diagnosis is not, perhaps, so difficult after all. In many cases the existence of pregnancy has been suspected before the rupture occurred. In the majority of these cases there is a misleading feature; the patient has never been pregnant, or has not been so for years, so that arrest of menstruation does not attract particular attention. If, however, it be found that the patient has been eight weeks or more without a period, and there is a pelvic mass on one side of the uterus and fixing it, and if sudden and severe symptoms of pelvic trouble and hæmorrhage come on, the rupture of a tubal pregnancy may be suspected, and if an operation is to be done—and it clearly ought to be done—it must be done without delay. So says Mr. Tait, and adds: "Early interference is clearly a chief element of success in modern abdominal surgery." He appends the report of five cases thus treated —abdominal section, ligature of the tube and its removal, and then careful sponging of the peritonæum—before closing." Of the five, four recovered.—*British Medical Journal.*

ORIGINAL ABSTRACTS.

The Period of Incubation of Scarlet Fever.—Tonge Smith (*British Medical Journal*, 1152) says: From his experience of over 2,000 cases of scarlet fever, observed within the last three and a half years in the London Fever Hospital, Dr. Tonge Smith has become convinced that the incubation of scarlet fever does not last more than three days. Accordingly, he does not extend the quarantine for persons who have been exposed to the infection beyond three days, and has never so far gone astray in following this rule. As ground for his opinion, so decidedly outspoken and so different from the usual views, he gives the details of twelve cases. Of these, seven were admitted to the scarlet fever division with the diagnosis of scarlet fever, while actually two had rubeola, one had measles and four had no special disease. Although these patients were again immediately isolated, the characteristic symptoms of scarlet fever appeared in four of them in from sixty to seventy-two hours, and in two of them within three days. There were two further cases of nurses who had newly come in charge of the scarlet fever patients. One was attacked seventy-two hours, the other five days after entering the division. The other patients, in whose cases the source of infection was exactly known, and who had been exposed to it only a short time, sickened on the third, fourth, fifth and thirteenth days. From these latter cases the author does not conclude that there is a period of incubation of so and so many days, but that there is a possibility of remaining a certain time among scarlet fever patients without being infected. Thus, he has observed, that in well-ventilated rooms for scarlet fever cases, other patients who were in bed remained free from scarlet fever as long as three weeks, but were attacked by the disease three days after getting up and mingling with the scarlet fever patients. It was only in surgical and puerperal scarlatina that he had seen the shortest period of incubation, *i. e.*, twenty-four hours.

Paretic Dementia as a Means of Cheating Insurance Companies.—How much the average medical officer of the insurance companies does not know of mental disease has not yet been found out. It will be remembered that one of these gentlemen (appointed, like the most, for social reasons only) pronounced Guiteau sane. A very apt commentary on the psychiatrical knowledge of himself and his confrères is to be found in the case reported by Legrand du Saulle (*Gazette des Hopitaux*, Sept. 11, 1883). An alienist was called on by two brothers; one went alone into the private office of the physician and said, concerning his brother, that, while there appeared to be nothing the matter with him, he was no longer himself. After a long examination of the patient, the physician told the brother that the other brother was suffering from paretic dementia and would die in three or four years. The brother immediately placed an insurance of $20,000 on his brother's head. The latter died in three years, and the company paid the policy. The second case shows that business men are, contrary to the opinion of many medical journals, not experts on insanity, and that their negative evidence is worthless (*Amer. Jour. of Neurology and Psychiatry*). A French physician had had for nine years an insurance on his life to the amount of $20,000. He suddenly gave evidence of cerebral excitation, went and came without object, and wrote and spoke a great deal. He had an exaggerated opinion of his published works, and vaunted his professional skill. He one day accidentally encountered a director of the insurance company in which his life was insured, and after a long conversation with him said that the sum for which his life was insured was such a trifle, he must increase the amount to $100,000. He was referred to the proper officials of the company, who consented. The papers were prepared, and only the signature of the unfortunate physician was wanting, when the latter spoke with such vehemence that the agent thought him drunk, and under a technical plea carried off the policy. The following day the unfortunate physician was sent to a hospital for the insane. Here he was found to be suffering from an advanced stage of paretic dementia, of which he died within six months. The company (*Journal of Nervous and Mental Disease*) paid the widow the $20,000, and thought themselves lucky that they had not to pay the $100,000 for which the deceased had subscribed in a fit of pathological temerity, for he had done this in good faith, and was far from foreseeing his sudden death.

INSANITY OF PUBERTY.—Dr. Régis (*Journal de Médecine de Bordeaux*, February 30, 1884) says that it is incorrect to put the psychoses occurring at puberty in one class as has been done by the Germans, under the title of hebephrenia, but (*Journal of Nervous and Mental Diseases*) the Germans by hebephrenia meant a type of insanity occurring at puberty, and peculiar to that epoch of human life, and not types of insanity which may occur then as at all periods of life. Régis says that the insanity of puberty has but slight gravity, and disappears with the critical period which gives it birth, unless it take its origin in decided heredity, in which case it is only the first step in intellectual degeneracy. These opinions are scarcely in accord with the experience of the majority of authors.

PSYCHIC BLINDNESS IN A LYPEMANIAC.—Dr. J. Cotard (*Progrès Medical*, January 12, 1884), cites the following case: A sixty-eight-year-old male diabetic entered a hospital for the insane in 1872 in a condition of negative lypemania with irregular symptoms. In three months he so improved as to be able to return to his family. Nine years after, he was readmitted, then displaying hypochondriac symptoms attended by agitation. Latterly he has been unable to represent to himself mentally the objects formerly most familiar to him. It must be confessed that the case is decidedly unusual.

INSANITY FROM LEAD-POISONING.—Dr. S. V. Clevenger, Special Pathololgist of Cook County Hospital for the Insane (*Chicago Medical Journal and Examiner*, February, 1884), states the following case: The patient, a fifty-one-year-old Swede, single, was admitted June 7, 1883, and presented the appearance of mute depression observable in ordinary melancholia, with the addition of epileptiform convulsions. From a friend who visited him was learned that the patient had been working in lead three years. Examination revealed the characteristic blue discoloration of the gums, and other symptoms of lead-poisoning. The patient was given potassium iodide tonics and bathed frequently. Under this treatment he steadily improved, and was discharged, fully recovered, August 31, 1883. Dr. Clevenger, commenting on this case, says: "Had the cause of this attack been unascertained, the patient would have died insane." That the long-continued action of lead produces chronic forms of insanity has been shown by Kiernan (*Journal of Nervous and Mental Disease*, July, 1881), Ulrich (*Allgemeine Zeitschrift fur Psychiatrie* B. XXXIX.), Goodheart (*British Medical Journal*, April, 1882), Mäli (*Charité Annalen*, VIII.), and others. Goodheart claims that sequence of events in lead poisoning is as follows: Introduction of the lead, vascular tension, arterial spasm, followed by convulsions or insanity, leading to permanently-impaired nutrition of the brain by causing permanent cerebral arterial spasm. In Mäli's opinion, certain cases are produced by the secondary results from the phenomena produced by lead. Racine (*Deutsche Medizinische Wochenscrift*, March 6, 1884) reports the case of a thirty-eight-year-old man attacked by lead palsy, followed by acute hallucinatory confusional insanity. The patient believed that the devil had taken up his abode in his abdomen, which delusion had a clearly illusional basis. After about a week of excitement and insomnia the patient fell into a deep sleep, on awaking from which he was found to be mentally clear, but had no recollection of what had occurred during the excited period.

VERTIGO AMONG THE INSANE.—Dr. G. Miller (*Annales Médico-Psychologiques*, March, 1884) concludes: First, vertigo is of frequent occurrence among the insane. Second, mania is least often affected by vertigo. In melancholia, especially of the anxious, vertigo is much less rare. Vertigo is quite frequent in acute and chronic alcoholism; in senile, apoplectic and paretic dementia, and, above all, in epilepsy. Third, vertigo may present marked variations in type from slight dizziness to convulsive and apoplectic attacks. Fourth, vertigo may be accompanied with partial convulsive phenomena, psychical symptoms, hallucinations, extravagant and violent acts. Fifth, unconsciousness and amnesia are the rule when the vertigo is of epileptic origin. These symptoms may be absent when the vertigo is of another nature. Sixth, vertigo is more frequent among males than females. Seventh, they appear to be due to a general or partial, direct or reflex, congestive state of the nerve centres. Eighth, they can be treated with advantage by saline purgatives and revulsives; abstinence from alcohol when of alcoholic origin, and with alkaline bromides when they depend on epilepsy. Ninth, persons acting under the influence of vertigo should be held irresponsible.

HANDWRITING OF THE INSANE.—Dr. Bianchi (*Alienist and Neurologist*, October, 1883) comes to the following conclusions as to handwriting in its relations to the neuroses and psychoses: 1. The study of the mechanical and psychical alterations of writing merits special attention, and may be of great utility in diagnosis, prognosis and therapeutic direction. 2. The reversed writing, it seems, may in future be studied with real advantage. Up to the present time it may be said that it is observed in many cases of right hemiplegia and idiocy. 3. In mental diseases especially, attentive examination of the psychical and mechanical alterations of the writing may notably clear up the diagnosis of the disease. 4. In prognosis, whether relative to an improvement or a relapse, examination of the handwriting may afford notable aid. 5. The best treatment in cases of mechanical alteration of the writing is galvanization of the brain, good intellectual exercise, and a well-directed education of the hand. 6. The specific treatment, in cases of altered writing, from syphilitic cerebral lesions, and that of strychnine in those from chronic alcoholism, give the most benefit.

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NEW YORK AUTHORS.—In his presidential address before the New York Academy of Medicine, Dr. Fordyce Barker gives the following statistics of medico-literary activity in the metropolis: "The number of medical works by New York authors in the fifty years from 1800 to 1850 was 109. In the ten years from 1850 to 1860 New York writers published 65 medical works. From 1860 to 1870 the number was 69, and from 1870 to 1880 the number was 102, the whole number in the last thirty years being 236. To this it should be added that New York writers have also, in this period of thirty years, contributed, according to the most accurate estimates that I can obtain, at least 25,000 pages to the periodical medical literature of the country."

SELECTIONS.

A CONTRIBUTION TO THE RELATIONS OF OVULATION AND MENSTRUATION. By A. REEVES JACKSON, A.M., M.D., Professor of Gynæcology in the College of Physicians and Surgeons of Chicago, etc. Read in the Section on Obstetrics and Diseases of Women, 1884.

MR. CHAIRMAN AND GENTLEMEN: The aim of all investigation should be the attainment of truth. And, in order that the discussion of any scientific question should be profitable, it is essential that the arguments advanced be based upon known facts. Any process of reasoning without such foundation is presumptuous, if not impertinent. In deference to this plain and just principle, I shall abstain from making any assertion, or educing any inference not fairly warranted by the observations of trustworthy investigators.

In the year 1673, De Graaf, a Dutch anatomist, described, in connection with the anatomy of the ovaries, the bodies, which have since borne his name. They were thought to be the ova of mammalia, and this belief obtained for many years. Sir Edward Home noticed the ruptured follicle during menstruation, but attached no importance to the conincidence.

In 1821, Dr. Power clearly enunciated the doctrine of the periodical ripening and rupture of the follicle at the menstrual period; and the discovery by Baer, in 1827, that the follicle was only the enveloping structure of the ovule, and not the ovule itself, made the rupture an intelligible and significant fact; and this may therefore be regarded as the birth of what is known as the ovulation theory of menstruation.

Négriér, in 1831, and, following him, Gendrin, Paterson, Barry, Raciborski, Bichoff, Pouchet and others furnished additional proofs, based upon anatomical observations, tending to show that menstruation was not only simultaneous with, but dependent upon and in consequence of ovulation. The doctrine seemed so consistent and reasonable, and was apparently so well sustained by the evidence adduced, that its general acceptance by physiologists is easily understood. Nevertheless, there have always been some who doubted its correctness, and who considered the evidences alluded to as insufficient and inconclusive.

These alleged proofs consist (*a*) of observations made post mortem upon the bodies of women in whom the date of the last menstrual period was known, and (*b*) of the effects following the artificial removal of the ovaries during life; and it is asserted that these observations justify the following propositions, namely:

1. In the human female, at regular periods of about twenty-eight days, a Graafian follicle is ripened and usually bursts, discharges a matured ovule which passes into the Fallopian tube and is transmitted to the uterus.
2. Coincident with, and dependent upon the maturation and extrusion of the ovule, certain changes occur in the mucous membrane of the uterus which result in a sanguineous discharge from that organ.
3. The removal of the ovaries is necessarily followed by a cessation of menstruation.

Certainly, if the facts which have been observed really warranted these conclusions there could be no ground for discussion. But facts are phenomena, and in order that they may lead to true results they must be accurately observed and fairly interpreted. Further, *all* the facts which bear upon a given subject must be taken into account, otherwise the conclusions obtained will almost certainly be fallacious.

I will endeavor to show that these conditions have not been complied with in the discussion of the subject under consideration, and that, if they were, very different results would be obtained. Indeed, it is easily proven that either ovulation or menstruation may occur independently of the other, and that, hence, there is no necessary connection between the two functions.

(*a*) *Ovulation may occur without accompanying menstruation.*—Ovulation is a function of the ovary, and includes the ripening of a Graafian follicle and the discharge of an ovule. The evidences of the process consist in (1) the presence of an enlarged or ruptured follicle; (2) the presence, in the latter, of a blood-clot or corpus luteum; (3) cicatrices marking the seat of former rupture; (4) the occurrence of conception.

Malpighi and Vallisneri long ago observed that developed Graafian follicles are occasionally found in the fully-grown fœtus. Ritchie[*] also has demonstrated that in the ovaries of new-born infants and children as early as the sixth year may be found highly-vascular Graafian follicles; and that, at the age of fourteen and prior to menstruation, they are found as large as small raisins, filled with their usual transparent granular fluid. These observations have been confirmed by the more recent researches of Grohe, Slavjansky,[*] Sinéty,[†] Haussmann,[‡] and others.

Haussmann, whose observations were made upon 84 subjects, asserts that such early development of the follicles as was noticed by Ritchie takes place in about ten per cent. of all cases.

Of course, ovulation is the necessary condition of impregnation; and it is admitted by all obstetric writers that conception may occur in the absence of menstruation. Our literature contains many instances of girls who have become pregnant prior to the first appearance of the flow; of women who have conceived subsequently to the menopause; and of others in whom pregnancy has occurred during lactation before the reappearance of menstruation.

Rondelet[§] cites an instance of a woman who was delivered twelve times, and Joubert mentions another who bore eighteen children, neither of the women having ever menstruated. Leishman relates the case of a woman who married at 27, and who menstruated the first time after her eighth labor. St. Germain[‖] tells of one who married at 20, became pregnant in the early months of her married life a few days after menstruation. She subsequently had eleven children, the last in her forty-fifth year, having never menstruated during the entire period of twenty-five years. At the age of 78 she was in good health. Dr. S. T. Gregory[¶] relates the case of a woman whose general health was always good, the mother of seven children, and who had never menstruated, and who had never experienced the usual symptoms preceding or attending menstruation. In a paper read before the New York Journal Association, Dr. Fordyce Barker[**] related several cases of women who had given birth to large families of children, and yet had never menstruated. In one case which occurred in his own practice, a woman who had menstruated irregularly and scantily previous to marriage, ceased entirely afterwards, and yet gave birth to ten children.

Very many other instances of similar character are on record. Indeed, they are so numerous as to scarcely attract attention.

I am aware that the argument based upon this class of facts is not satisfactory, for it may be justly urged that in many of the cases menstruation might have taken place had it not been prevented by conception. But this objection will hardly stand against another class of cases, in which follicles have matured and corpora lutea have formed during pregnancy.

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[*] Ovarian Physiology and Pathology. London, 1865.

[*] Virchow's Archiv. Band iv., Heft 4.

[†] Brown-Sequard's Archiv. de Physiol., No. v.

[‡] Centralblatt, No. 32. 1875.

[§] Gardien, Traité d'Accouchements, vol. 1, p. 220.

[‖] *L'Union Medicale de Canada*, Dec., 1875.

[¶] *Amer. Jour. Med. Sciences*, vol. xxv., p. 549.

[**] *Obstet. Jour.*, Great Britain and Ireland (Amer. Supplement), vol. ii., p. 154.

Scanzoni admits that the Graafian follicle enlarges and matures during pregnancy, but he has never found one which had burst. Mayrhofer,* however, has found during pregnancy the freshly-formed corpus luteum, and thinks it may be formed monthly during that condition. Slavjansky† has described the state of the ovaries in a case of extra-uterine gestation. The patient was 24 years old, and had had one child previously. She died from rupture of the left Fallopian tube at three and a half months. Menstruation was suppressed during the pregnancy. The right ovary contained a recent true corpus luteum with all the characteristics strongly marked. Near it was a maturing Graafian follicle. In the left ovary was a cavity, the walls of which corresponded to those of a ripe Graafian follicle. A small prominence was noticed near the thinnest portion of the wall. It was removed on the point of a needle, and found to consist of a mass of epithelial cells, in the midst of which was an ovule. Hence, it was clearly not a cystic degeneration, but a ripe Graafian follicle ready to burst.

Sinéty, too, has made two observations which can only be explained on the theory that ovulation and menstruation are independent processes.

The first of these was reported to the Biological Society of Paris, April 25, 1874.‡ The subject was a woman who had died of phthisis, and who had not menstruated for five months. One ovary contained a ruptured Graafian follicle. The second case was reported to the same society in 1877. The observer described the anatomical characters of the uterus and ovaries of a woman who had never menstruated. She died at the age of 38. With the exception of the absence of the flow, she had presented all the features of puberty from the tenth year. The uterus was externally of normal size, but the cavity was formed almost entirely by that of the neck ; the cavity of the body was infantile, as was likewise the mucous membrane. Ovulation, however, had been very active, the ovaries presenting many false corpora lutea.

(*b*) *Menstruation may occur without accompanying ovulation.*—Inasmuch as the menstrual periods occupy from one-sixth to one-fourth of a woman's lifetime for thirty years; and, further, as Graafian follicles are maturing and rupturing, and corpora lutea are forming and disappearing continuously, we should expect that a broken follicle or a corpus luteum in some of its stages would frequently be found coincident with menstruation. Indeed, it could not be otherwise. So that persons who are satisfied of the correctness of the ovulation theory, because they find such coincidences, have usually no lack of evidence to sustain their belief. Yet, abundant as such evidence unquestionably is, it sometimes fails ; for menstruation frequently occurs without any such simultaneous change in the ovary. From many instances of this character which have been recorded, I select a few for your consideration.

Dr. W. W. Gerhard§ presented to the College of Physicians of Philadelphia the uterus and appendages of a multipara, 25 years old, who died of apoplexy during a menstrual period. Although the woman had been the subject of menorrhagia, an examination of the ovaries failed to show any recent ripening or rupture of a follicle. Dr. Stedman‖ has reported the case of a married woman, 45 years of age, who died of some pulmonary affection, having had no symptoms of uterine disease. Her last confinement occurred at thirty-nine, when she had twins. Menstruation was regular almost to the time of death. On examination not a trace of the left ovary was found, but in its

* *Obstet. Jour.*, Great Britain and Ireland, vol. iv., p. 699.

† Annales de Gynécologie, Feb., 1878.

‡ *Amer. Jour. Med. Sciences*, vol. 68, p. 240.

§ *Amer. Jour Med. Sciences*, vol. xxxvi., p. 410.

‖ *Amer. Jour. Med. Sciences*, vol., xxiv., p. 83.

place was a thin and simple serous cyst, nearly two and a half inches in diameter. On the other side there was a collection of cysts forming a mass twice the size of an English walnut, upon the surface of which were spread out the flattened, dense, atrophied remains of the ovary.

On December 2, 1876, M. De Sinéty read before the Société de Biologie an account of the autopsy of one of Charcot's cases of hysterical hemianæsthesia, and pain in the situation of the ovary of the same side. The patient had begun to menstruate at 13 years, and had menstruated almost regularly since that time. Histological examination showed that there was not a single Graafian follicle arrived at maturity, nor were there any corpora lutea or cicatrices in either ovary. It was evident that no ovules had been expelled from the ovaries for a considerable time. It was, in fact, a case of menstruation without ovulation.

Some of the reported cases of hernia of the ovaries throw valuable light upon this subject. For example, Dr. Alfred Meadows* relates the case of a single woman, 23 years of age, who began to menstruate at 15, and continued to do so at regular intervals, with some pain, down to the age of 20, when, after stooping, a swelling suddenly appeared in the right inguinal region, caused, as was learned subsequently, by the herniated ovary. At the menstrual period following this she suffered violent pain of a character different from any she had previously felt; it preceded the discharge; at the same time the tumor was much increased in size. From that time onward for three years she suffered in a similar manner, the pain being so acute that at every monthly period she was obliged to lie in bed for a week or more. Sometimes the tumor would swell to the size of "two fists," and be exquisitely tender to the touch. She had no suffering during the inter-menstrual period. The tumor was removed. The upper portion, or pedicle, which went through the abdominal ring, was found distended with fluid. This was punctured, and about an ounce of the contents let out. The pedicle was then tied, and the tumor removed. It measured about two inches in diameter, and proved to be the right ovary. It was found, on section, to have undergone remarkable structural change. "Instead of presenting the usual dense, compact appearance, it contained throughout numerous irregularly-shaped spaces, varying in size from a pin's head to half an inch in diameter, and all were filled with the same kind of fluid as flowed from the pedicle. These cells or cysts appeared to communicate with one another, and the whole organ to be infiltrated, as it were, with the fluid in question. There were no proper Graafian vesicles to be seen." No Graafian follicles, no ovules, no ovulation, to account for the great increase in the size of the ovary preceding and during the catamenial period! What is the fair inference? Is it not that the swelling of the ovary was caused by the pelvic congestion attendant upon the menstrual period?

Dr. Robert Barnes† relates a case of a single woman, aged forty-one, who had always enjoyed good health, and in whom the catamenia had occurred punctually, but scantily, and attended by some pain. "She sustained a rupture in the left groin at twenty-four, and has since worn a truss. About three years ago she first observed a second swelling a little below the old rupture. This mass, she asserts, becomes almost twice its usual size at the menstrual periods, and tender, and even painful. It continues in this state for a week at least after the disappearance of the catamenia, and then gradually lessens, and can be handled without causing pain." April 24, a menstrual period commenced and lasted five days. Another period commenced May 20, and ceased on the 25th. On the 7th of June the tumor was removed by Mr. Pollock. An examination showed that it was an ovary filled with small cysts of varying size, but not a single matured follicle.

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* *Amer. Jour. Obstetrics*, etc., vol., vi., p. 231.

† *Amer. Jour. Obstetrics*, Jan., 1882.

In this case, also, we find regularly-recurring menstruation with simultaneous swelling and tenderness of the ovary, but without any preceding or accompanying follicular rupture.

I have had three opportunities of examining the ovaries of women who died at or near the menstrual period.

One of these was in the case of a healthy unmarried woman, twenty-eight years of age, who died from an overdose of morphia, taken accidentally. She had menstruated regularly, and a period had ceased four days before death. Both ovaries were normal in structure and size, the right being somewhat larger than the left. It contained several Graafian vesicles scattered throughout the stroma. Two of these were larger than the others, one being about an eighth of an inch in diameter, and the other as large as a small currant. The latter was near the surface and caused a slight projection. The left ovary contained fewer vesicles, but had the indistinct remains of a corpus luteum not less, certainly, than four or five weeks old. A second case was that of a young girl fifteen years old, who died from the effects of a burn. She had commenced menstruating eighteen months before, but the function had been performed regularly only about ten months. A period had ceased twelve days prior to death. Neither ovary contained corpora lutea, nor bore the marks of recent rupture. The largest vesicle, which was about a quarter of an inch in diameter, was found in the left ovary about a sixteenth of an inch from the surface. The third case was also in the person of an unmarried woman, who died of peritonitis three days after an operation for the removal of a cystic kidney. A menstrual period had ceased five days before death. Springing from the right ovary was a thin-walled cyst containing about four ounces of a clear, yellowish, serous fluid. In the left was a ruptured follicle, which contained a partially-adherent blood-clot as large as a pea, and which seemed five or six days old.

Prof. G. Leopold* has recently made a most valuable contribution to this subject, based upon an examination of 32 pairs of ovaries which were removed from patients of whom the date of the last menstruation was known. The post-menstrual period varied from one to thirty-five days. Leopold does not consider that his researches, or any others that have yet been made, are sufficient to settle the points in dispute; but they certainly show that the Graafian follicle may rupture at any time without reference to the menstrual period, and that, consequently, there is no necessary temporal connection between the two processes.

The 32 lithographic figures which accompany the paper, and which I here present for your inspection, seem conclusive upon this point—at least, so far as their number may warrant any conclusion. To illustrate, in figures 1, 4, 5, 11, 14, 15, 18, 21 and 23, are representations of burst follicles, none of them having been broken for more than one to three days, but their relation to the last-known menstruation varied from one day to three weeks, being respectively 1, 5, 12, 15, 16, 20 and 21 days. Likewise, there may be seen delineations of large projecting follicles, just ready to burst through their enveloping structures, in figures 1, 2, 6, 9, 12, 14, 17, 18, 20, 21, 24, 26, 28 and 30; and these were removed at periods after menstruation all the way from 1 to 26 days. Figures 22, 23 and 24 show the conditions of the ovaries 21 days after menstruation. If they be compared with each other, it will be seen that they have scarcely any feature in common. In one (fig. 22), there is a large typical corpus luteum; in another (fig. 23), there is a recently-burst follicle; and in the third (fig. 24), there are numerous mature superficial follicles. The ovaries depicted in figures 20 and 21 were removed on the 20th day. In the first there is a mature follicle which is ready to burst; in the second there is a burst follicle, precisely like the one seen in fig. 1, removed on the first day, and also a large ripe follicle on the point of bursting. The ovaries represented in figures 31 and 32 were removed 35 days after menstruation. In one (*c*, fig. 31) there is a typical corpus luteum five weeks old, and a recently-ruptured follicle; while in the other (*c*, *l*, fig. 32) there is a corpus luteum ten days old. The ovaries shown in figures 16, 17 and 18 were removed 16 days after a period. In one of them (*c*, fig. 16), there is a typical corpus luteum, probably 12 days old, and two follicles ready to burst; in fig. 17 there are several mature follicles; and in fig. 18 there is freshly-broken follicle, and another just ready to burst. In short, there is no single condition of the ovary which corresponds even approximately with the menstrual period; and it would be the merest guessing to select any one of the specimens and assign to it the date to which it belonged.

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* Archiv. f. Gynakologie, Bd. xxi., Heft 3, 1833.

Lawson Tait, in a paper read before the Midland Medical Society, and published in the *Medical Times* for March, 1884, gives the record of 49 cases of operations for removal of both ovaries, and he rests satisfied that the evidence so far has completely destroyed the ovular theory of menstruation. These cases are as follows:

1. Cases, nine in number, where it was evident that menstruation and ovulation were concurrent.
2. Cases of negative proof against the ovulation theory of menstruation, fifteen in number.
3. Cases, twenty-five in number, affording positive evidence against the theory.

(*c*) *The removal of the ovaries does not necessarily determine the cessation of menstruation.*—Many persons, who, recognizing the inevitable logic of facts, are willing to admit that menstruation may occur without coincident ovulation, deny its possibility in the absence of the ovaries. This, which was formerly almost the universal belief, is still the prevalent one. It is based upon the fact that, in most cases in which the ovaries have been removed, women who before menstruated regularly have ceased at once, or very soon, and forever.

After ovariotomy became a frequent operation it was noticed that in many instances the ablated organs were so greatly diseased as to make it incredible that they had continued to perform their normal functions; but, inasmuch as one ovary was frequently left, it was not difficult to suppose that it had been doing, and might continue to do the work of both. By and by, however, as double ovariotomy became more common, it was observed that in very many cases there appeared a subsequent bloody flow from the genital organs, recurring with more or less regularity, and persisting for varying periods from a few months to many years. In some of these the discharge was perfectly regular in point of time, was accompanied by the usual symptoms of the menstrual period, and continued to appear until the approach of the ordinary time of the menopause. At first, instances of this character scarcely attracted attention; then, as their number increased, they aroused curiosity; next, they excited wonder; and, finally, inquiry. At first the discharge was regarded as a mere accidental hæmorrhage, dependent, possibly, upon some uterine disease, and its rhythmical character was either not noticed, or thought to be only a causeless coincidence. But the frequency of the cases demanded more earnest consideration, and at length investigation began concerning their significance.

In a paper which I had the honor to publish in the *American Journal of Obstetrics*, in October, 1876, I mentioned a large number of instances in which menstruation continued after removal of both ovaries. Many others of the same kind have been published since. They are no longer uncommon. I present here a few of the more recent that have come to my knowledge. And I beg to have it observed that I do not include any of those cases, so frequently noticed, in which within a short time after ovariotomy a bloody discharge occurs from the genitals, lasting from a few hours to a few days; or those even in which the flow, regular or irregular, is seen for only two or three months; but only such as from their rhythmical character and persistent recurrence seem to possess greater significance.

In the Transactions of the State Medical Society of Michigan, for the year 1870, is published an instance of this kind by Prof. E. W. Jenks. The patient was an unmarried woman, aged 30 years. Both ovaries were removed, for cystic disease, September 16, 1869, ten days after a menstrual period. Eighteen days subsequent to the operation menstrual molimenal symptoms manifested themselves, and continued two or three days, although no discharge of blood or mucus appeared. Twenty-eight days later the symptoms indicative of the onset of menstruation returned, this time accompanied by a slight discharge of mucus from the vagina. In four weeks more the *molimen* appeared distinctly, and there was a discharge of mucus tinged with blood. After this there was a regular monthly discharge of blood, lasting the average time of the monthly flow; and this had continued down to the date of the report—June 4, 1870—nine months after the operation.

MM. Verneuil and Terrier [*] record the case of a woman, 36 years of age, who underwent ovariotomy for multilocular cysts. Both ovaries were removed July 6, 1875. On December 25 following, menstruation appeared, was profuse for four days, and lasted six. It appeared again February 20, was very abundant, and lasted ten days. It then recurred every alternate month until the summer of 1876, then it became regular, once a month, lasting from six to eight days.

At a meeting of the Société de Biologie, held December 2, 1876, M. de Sinéty reported the case of a patient who had undergone double ovariotomy, and in whom, a few months afterwards, menstruation had recommenced and recurred at regular intervals.

On October 18, 1881, Billroth [†] operated on a woman aged 29, who was married at 18, and had five children without any trouble. The sixth pregnancy ended with the expulsion of a decomposing six months' fœtus. Both ovaries were removed, together with portions of the bladder and ileum. Menstruation returned three months after the operation, and continued to be regular, lasting from three to four days. [‡]

Dr. T. A. Emmet reported to the American Gynæcological Society [§] the case of a woman from whom he removed the Fallopian tubes and ovaries at the Woman's Hospital, in New York, eighteen months previously, and who, after a lapse of three months succeeding the operation, had menstruated regularly thirteen times. [‖]

In addition to a case reported in the paper referred to, a second one has occurred in my own experience.

Through the courtesy of Dr. Charles H. Venn, of Chicago, I visited Mary S., in January, 1882. She was 21 years of age, unmarried, and had commenced menstruating at 13. On March 12, 1883, I assisted Dr. Venn in performing Battey's operation for intractable dysmenorrhœa. The ovaries seemed in every respect normal. The operation was done twelve days after the cessation of a menstrual period. The next period came duly, but the discharge was scanty and without pain. A second and third period had each a similar history. The fourth, however, was marked by a great increase in the amount of discharge, and a return of the former pain. Since then menstruation has been entirely regular, very profuse, and attended by great pain, which is only alleviated by hypodermic injections of morphia and chloroform inhalations.

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[*] Annales de Gynécologie, August, 1887.

[†] *Wiener Med. Woch.*, Nos. 2 and 3.

[‡] The report of this case was made fifteen months after the operation.

[§] Annual meeting, September, 1883.

[‖] In a recent letter Dr. Emmet informs the writer that this patient has menstruated regularly eighteen times.

The persistence of a periodical hæmorrhagic discharge after removal of the ovaries is no longer denied, although many are unwilling to consider it as menstruation. Its occurrence has been explained on several more or less reasonable hypotheses.

Thus it has been urged as a possible explanation that some portion of the ovarian tissue may have been left behind, and that this remaining portion has been sufficient to continue the work of maturing and expelling ovules. Surely the mind which could rest content with such an explanation would be easily satisfied. In refutation of its force it is only necessary to call attention to the obvious anatomical and physiological difficulties involved in the supposition, and to the fact that no such condition has been shown to exist in any of the cases under consideration.

Again, it has been suggested that supernumerary ovaries might be present and one or more be left behind. Since the occasional existence of accessory ovaries has been demonstrated, I am quite willing to admit that the argument has some weight. But this anomalous condition is extremely rare, and, like the former, has not been found present in any one of the reported cases of non-ovarian menstruation.

Biegel* states that in 350 post-mortem examinations he found accessory ovaries in eight—two being in new-born infants. They were situated on the boundary line separating the peritonæum from the serous covering of the ovary, and varied in size from a hemp-seed to a cherry. They consisted of normal ovarian tissue, and some of them were sessile and contained Graafian follicles, although most of them were attached by a slender pedicle, and were in every way rudimentary.†

But the favorite theory in regard to these cases is that the organism in the course of years becomes so accustomed to the discharge of blood that this still continues although the ovaries be removed; that, in short, the apparent anomaly is explainable on the doctrine of the influence of habit.

I have elsewhere‡ taken occasion to expose the fallacy of this argument, and need here only call attention to the fact that in many, if not most of the cases in which menstruation has persisted after removal of the ovaries the so-called habit was actually broken up; it was not a continuance, but a recommencement of the function. This was the fact in five out of the six cases to which reference has been made in this paper. In one menstruation was suspended for six months, in another "a few months," and in three others three months each—intervals sufficiently long to efface the effect of mere habit, and to show that we must seek for some other more potent impelling force to account for the subsequent resumption of functional regularity. What this motive power is we do not yet know. In regard to it I do not desire to offer either opinion or theory. My object has been only to present facts. To my mind, these facts justify at least the following conclusions:

1. Ovulation and menstruation may each occur independently of the other.
2. Ovulation is an irregular but constant function of the ovaries, while menstruation is a rhythmical function of the uterus.
3. Graafian follicles mature and rupture at any time, without any necessary connection with menstruation.
4. Menstruation may persist regularly without interruption, or may temporarily suspend and resume its regularity after the removal of both ovaries.

DISCUSSION.

Dr. Campbell, of Georgia.—Mr. Chairman: You are aware, sir, that the reading of that paper must be very agreeable to myself. You are aware of the subject of my concluding remarks at the meeting of the Gynæcological Society, some months ago, and I am very glad indeed to have such confirmation of the views I presented at that time. I believe, with the distinguished author of that paper, that menstruation and ovulation, although having a relation to each other, so far as cause and effect are concerned, are independent processes inaugurated to act together, but by no means the one dependent on the other. Ordinarily, when we wish to study experimental physiology, we take some lower animal. We have only the analogous results. But in this case, of the human female, we have the experiment performed upon the subject herself; and oöphorectomy has been over and over again performed, and the facts are being rapidly developed that it does not arrest menstruation, that it does not put an end to the uterine processes. In case after case that has come under my observation in which oöphorectomy has been performed, I find that menstruation has fully continued after the removal of the ovary, sometimes more or less disturbed. You will remember in a case mentioned by Dr. Emmett last September, in our discussion, in which both ovaries and Fallopian tubes were removed, the woman had continued to menstruate for thirteen months while under his personal care, and he was informed five months later, when removed, that she was still menstruating.

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* *Wiener Med. Woch.* May 25, 1877.

† Dr. T. G. Thomas observed one case in which he found a third ovary, having removed two, and allowed it to remain.

‡ Loc. cit., p. 27.

In a private letter from Dr. Englemann, of Missouri, I received an account of the only case in which he performed double oöphorectomy.

In that case the woman continued to menstruate for three years, without any disturbance of the function whatever. And I do not known why she should not. The egg-making apparatus is there, and has its own supply of blood; the nest-making apparatus is there, and has its own supply of blood; and I see no reason why taking away the egg-making apparatus should interfere with the nest-making apparatus, and menstruation is an accompaniment of nest-making. And I think that the result of experimental physiology, as performed on the subject itself—the woman—by cutting out her ovaries, is establishing the fact that ovulation is not the controlling power; or, in other words, that menstruation is by no means the expression of ovulation.

In another case that has come under my observation both ovaries were removed, and for over eight months since the operation the menstrual flow has returned, with all the neurotic symptoms that attended it before the operation; and not only that, but an excessive hæmorrhage, in which ergot and every hæmostatic means possible have to be used, or she has an alarming hæmorrhage.

According to my view of menstruation, we have studied it too much in regard to the apparatus. We give too much credit to histology. We do not look to what is the philosophy of menstruation. My view of it is, that a woman at the age of puberty has certain endowments, presents certain developments, general developments occur. The internal and external organs of generation are developed, and with the maturity comes an endowment of blood. For what? To support her and make her grow fast and better? Oh, no; some of this blood is used in developing a vesicle into an ovule, and in conception an ovule into an ovum, the ovum into a fœtus, and the fœtus into an infant, which, after being nourished by it for nine months is expelled. I know I have now from twelve to eighteen months of absent menstrual blood to account for. During this time it is utilized in lactation to sustain and nourish the separated but still-dependent pensioner until it can masticate its food, when this waste will begin again in a monthly flow; or, more happily, the blood becomes utilized in another fecundation, which of course is the most economical way. If she does not use it this way she must waste it in natural or vicarious menstruation, or suffer ill-health or discomfort.

What is menstruation, then, as we have it? A waste of the blood that is given to woman for procreation.

This is the object of the endowment of blood; and the only woman I knew who made a perfect use of her blood was one with whose case I am familiar.

This ideal woman told me, "I was married at 17, and never had menstruation afterwards, although I had twelve children." She used her blood and continued to utilize it, until the close of her menstrual life, and in the end she had not one drop of her sinking fund to set down to profit and loss. She had none of the disturbances attendant upon the change of life; and she had, at last, a dozen healthy men and women to show as the result of her procreative business transactions.

This, Mr. Chairman, is my theory and philosophy of menstruation, and also my method of studying the process and its phenomena. [Applause.]

Dr. Englemann, of Missouri.—Mr. Chairman: As we have been frequently going too far in one direction (menstruation and ovulation being considered inseparable and dependent upon each other), I think we are going a little too far in the other direction now. The facts are not quite all in, but this is something which will unquestionably be established by facts. There is no theorizing about it upon isolated cases here and there. There are exceptions to everything. These conditions must be established by facts, as far as the facts go to show.

I have examined a large number of menstruating uteri. The ovule bursts upon the first, second or third day of the menstrual flow—that is, under normal conditions. We have a monthly congestion in the female sexual organs, and ovulation and menstruation are the evidences of that congestion—coexistent evidences, not one dependent upon the other. There is a flow of blood to those organs. The ovaries show that congestion in one way—they ripen the ovule. The uterus shows a congestion, if impregnation does not take place, by a discharge of blood. Both functions are performed—side by side—related—on a par—not one dependent upon the other. The congestion of those organs has its purpose in each.

We have isolated cases. Here and there, indeed, we see something peculiar; one appearing to show that ovulation is not dependent upon menstruation or menstruation upon ovulation. But, as a rule, if one of these functions is disturbed, the other is likely to be. Sometimes one function is disturbed and the other goes on.

But we do not always know the full facts—the case of double oöphorectomy, to which Dr. Campbell has referred, is still more peculiar than I thought it to be. I removed an ovarian tumor, on one side, as large as an ordinary hat, with a large pedicle. The pedicle was cut short. On the other side was another ovarian tumor, which I removed, as large as a child's head, and I have that specimen in alcohol. That patient was restored to the best of health; menstruated for three years regularly, and will be confined in a month! [Laughter.] She has both ovaries removed, sir; the one was completely removed, and the other was as large as a child's head. I have it in alcohol, as I have said, and you can see what is left. A bit of the pedicle was left, of course, but nothing in the shape of healthy ovarian tissue at all. I think it is most important that that exists, in order that it should be examined. Here you have both ovaries removed as well as they can be removed in oöphorectomy; and menstruation ensued. When she first wrote me of her condition I was afraid she was doomed. She had borne children before, she knew what it was, but did not suppose such a thing could happen. But the physician who is attending her tells me that it is a normal pregnancy, and that she has but about a month more before confinement.

The Chairman: Do you think that she might have a third ovary?

Dr. Englemann: I have never seen any such a thing; and in the operation, which was a very difficult one (for I removed about thirteen small cysts at the same time), I went up the abdominal cavity as far as the liver, and found nothing unusual. So that I think this is a most striking example, which tells us that when we think that we have certain oöphorectomy, we are not always sure, as in the cases of destroyed ovaries which have been referred to here.

Dr. Robertson, of South Carolina.—Mr. Chairman: I think this is indeed a remarkable case! A woman conceiving without ovaries! I think this is the most remarkable case recorded in medical history—that a woman without ovaries has conceived and is about to bring forth! I hope the case will be recorded and reported, and that we shall hereafter hear the final result of a woman without ovaries conceiving and bringing forth! [Renewed laughter.]

Dr. Battey, of Georgia (being greeted with loud applause).—Mr. Chairman: This question, sir, as is well known, is one that has greatly interested me. I think, sir, the question is one of facts. It is not one that is ever to be settled by theory. It has happened to me, sir, to see more than one hot and furious discussion brought to a very speedy close by a mutual understanding of what the disputants meant by certain terms. When gentlemen misunderstand each other as to the significance of terms, they dispute interminably, and never arrive at a conclusion. Now, I think we have one of those cases here. Insufficient attention has been given to the meaning of the term menstruation. What is the meaning of the term "menstruation?" No definite and satisfactory answer has been made as yet, to my knowledge, to that question. There is, I think, sir, "menstruation" and "pseudo-menstruation," if you will allow those terms. In other words, there is a menstruation which occurs to a married woman of 25, who is putting every second or third year a babe into our world, and then there is a menstruation that occurs to her babe but four months old. But that is a different menstruation. It has a different purpose. Its results are different. There is a menstruation which occurs to a lady 92 years of age, who changed life at 45 or 48, gone through a long series of quietude and exemption from menstruation, and, under the magical touch of electricity from above, has again begun to menstruate and menstruated for two years. Is that "menstruation" or "pseudo-menstruation?" Gentlemen, we must understand each other on these points. If the menstruation in the babe at four months old is like the menstruation of the lady of 25 years old, then I will hold the ground with you, that it is a function of little or no significance, and having a cause or no cause as you choose to claim.

Now, what do the facts prove? I cannot give the authorities, but I lay down dogmatically what are the facts! The facts are that the ovaries are not necessary to pseudo-menstruation. The facts are that the Fallopian tubes are not necessary to pseudo-menstruation. The facts are that the uterus is not necessary to pseudo-menstruation. The facts are that the vagina is not necessary to pseudo-menstruation. And the facts are that the vulva is not necessary to pseudo-menstruation. Those are the facts!

Now, then, if I understand my friend, Dr. Campbell, correctly, he laid down the proposition, as he understands it, that cessation of menstruation does not follow upon the extirpation of the ovaries. I go further than my friend, Dr. Campbell. I lay down the fact that sterility does not follow the extirpation of the ovaries.

I had the honor, sir, three years ago, of bringing before the International Medical Congress, at London, a case from my practice of the extirpation of both ovaries, followed in little less than two years by the birth of a healthy child. That was the first case, I think, of that kind that has been presented. I thought it was unique, until I came here to-day and find the case that Dr. Englemann has brought before us. I feel comforted, sir, by that case.

But I have a third case, not so strong, perhaps, as these two, but still remarkable. I extirpated an ovarian tumor and dermoid cyst with the left ovary. There was an enlargement at the time of the right ovary, but I did not think it proper to interfere with it. In 12 months' time my patient called my attention to the fact that the right ovary was considerably enlarged. I examined it and found that it was as large as a walnut. I examined her during the succeeding year. It increased in size, and developed beyond the size of a walnut. She begged me to remove it. I said: "No. Possibly—who can tell?—possibly that ovary may give you a child yet." It did give her a child, Mr. Chairman. Of course it is true that there was probably some ovarian stroma that was left there.

But, gentlemen, I might talk all day upon this subject. I will not consume your valuable time. [Applause.]

Brief remarks were also made by Dr. Healy, of Maryland.

Dr. Jackson, in reply.—Mr. Chairman: The paper really comprehended rather more than was read, as you observed. It took up, however, simply the question as regards the temporal relations between ovulation and menstruation. I promised to draw no conclusions that were not clearly justified by facts. These facts are embodied in what some of you have had the opportunity of seeing—in these plates taken from ovaries removed from every woman in whom the date of the last menstrual period was known. There is shown in these plates that there is absolutely no temporal connection at all between the ripening, the bursting of a follicle, with the menstrual flood. These are facts, and they are facts that can be addressed to the eye of any one who will look at them. There are others which, as I say, have been recorded, of which these are simply confirmatory. They have more force, because we are taught more by what we see than by what we hear, and very properly, I think.

Now, with regard to the question of the definition of true and false menstruation. No such distinction has been made by me. I stated in the paper what ovulation was, that it consisted in the ripening and bursting of an ovule. Menstruation I regard as a sanguineous flow, dependent upon the mucous membrane of the uterus, and that may occur absolutely without this ovarian process. Unquestionably that is true; it cannot longer be denied, so that we cannot include in our definition of menstruation a process dependent upon ovulation, and we cannot declare it a false menstruation because it occurs without the ovaries. To say that it is a false menstruation because the woman is young or old is simply begging the question.

Dr. Battey.—I would like to ask the gentleman one question. Can this menstruation occur in the absence of the uterus as well as the ovaries?

Dr. Jackson.—I have never known it to do so, but I have seen recorded cases in which there was for a time a sanguineous flow following the operation of removal of both ovaries and of the uterus above the cervix. Of such cases I think there are a number on record.

Now, if we grant that the definition of menstruation is a regularly-occurring flood, discharged from the mucous membrane of the uterus, then it is true menstruation, in that sense, whether the ovaries be present or not. [Applause.]—*Jour. Amer. Med. Assoc.*

HOW TO PREPARE ANTISEPTIC DRESSINGS OF MERCURIC BICHLORIDE. By CHARLES MEIGS WILSON, M.D.

Now that the advantages of the mercuric bichloride as an antiseptic dressing have been clearly established, receiving as it does the sanction of so many eminent surgical authorities, and becoming extensively employed in hospital and private practice, a few words as to its proper preparation for such purposes may be of interest. Corrosive sublimate is soluble in water in the proportion of thirty grains to the ounce. Various vehicles have been employed, as glycerine, ether, alcohol, or the latter in equal parts and water. Of all these the preference should be given to water as a medium, because of its capability of imbibition and solution, and the readiness with which it may be obtained. Sufficient sodium chloride should be added to solutions of the sublimate (an equal part) to prevent the latter's decomposition and the formation of calomel. In hospitals it is possible to have the solutions freshly prepared and frequently renewed, but in private practice this is not always feasible, especially if the case be of long duration and at a distance from a drug-shop. A convenient solution for private use, and one which will keep indefinitely, is the following:

Hydrarg. bichlor.	ʒ ii.
Sodii chlorid	ʒ i.
Aquæ destillat	f ℥ iv.—M.

One fluid drachm of this, added to a pint of water, makes a solution of about one to a thousand. Sir Joseph Lister* makes use of the following formula in preparing solution of corrosive sublimate: One drachm by weight of a solution, one part of corrosive sublimate in one and one-half parts of glycerine, contains two-fifths its weight, or twenty-four grains, of the sublimate. This multiplied by one thousand (the proportion of water required) gives twenty-four thousand grains, or nearly three pints. It is, however, much more convenient to use fluid measure than weight, and one fluid drachm of the glycerin solution referred to requires four pints of water to produce the one to one-thousandth solution. Surgical authorities are pretty well agreed that one to one thousand is the proper solution to use for douching, washing and dressing wounds. For vaginal or uterine irrigation one to two thousand is the proper strength, and no stronger solution should be used in abdominal surgery. The best medium in which to use the corrosive sublimate for surgical dressings is finely-pulverized wood.† This may be obtained at a number of instrument makers' and drug shops. The wood-wool is sterilized by being subjected to a dry heat (above 220° F.). It is then soaked for twelve hours in a one-half per cent. solution of corrosive sublimate; afterwards it is spread out and dried. It is then placed in a bag of gauze (such as is used for the Lister dressing) or mosquito bar netting, prepared by being saturated with the following solution:

Corrosive sublimate	gr. x.
Alcohol	f ℥ ix. et f ʒ ii.
Glycerine	f ℥ i et —xx.

This dressing is applied dry. Care should be taken to apply the dressing so that the margins of the bag extend an inch or so beyond the margins of the wound. This dressing is capable of absorbing twelve times its weight of water. It is applied with the ordinary roller and requires no mackintosh or covering.

In cases in which there is a moderate amount of suppuration this dressing may be left until the external dressing becomes soiled. The wood-wool prepared according to the above formula is the dressing which is almost exclusively used at St. Thomas's Hospital and many of the other London hospitals. The following formula I take from the report of St. Mary's General Hospital, Brooklyn, N. Y.: Dissolve six grains of the corrosive sublimate in a half ounce each of ether and alcohol. Dissolve twenty-four grains of the chloride of sodium (added to prevent the decomposition of the sublimate and formation of calomel) in an ounce of glycerine. Mix the two solutions and triturate well with one pound of wood-wool; spread out to dry, and after the ether and alcohol have evaporated mix well with one part to ten by weight of powdered naphthaline. Thus prepared, we have a dressing that can be applied in a dry state, will absorb twelve times its own weight of water, is easily prepared, is simple, readily applied, and, above all, fulfills all the requirements of a true antiseptic dressing. The combination of these two agents gives us the most powerful germicide we know of—viz., corrosive sublimate—thus insuring a perfectly aseptic dressing which, while it prevents any decomposition of the secretions of the wound, offers but a slight obstacle to germ-laden air, and the naphthaline constantly given off in a gaseous state by the heat of the body maintains a true antiseptic atmosphere around the wound. Naphthaline is non-poisonous, has established antiseptic properties, and appears to exert a specific influence over the contagion of erysipelas. The wood-wool prepared in this way is used as a dressing in precisely the same way as that prepared by the first formula. The indications for renewal are the same as those in any other form of antiseptic dressing. The simplicity of these dressings is their great charm and renders them especially applicable for primary dressings. Equipped with a few bags of this dressing and a few roller bandages: the ambulance surgeons would be ready to place a wound almost immediately after its occurrence under antiseptic conditions. This is important in all cases, but especially so in cases of penetrating wounds, compound fractures and other severe injuries.

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* *British Medical Journal,* May 24, 1884.

† This wood-wool may be obtained from M. R. Hopkins, 72 Duane street, New York.

The following precautions should be used in operations: Before the operation the parts should be freely douched with a 1-1,000 solution. An asepticized ligature (pure silk is preferable) should be used. All hæmorrhage should be checked temporarily with the Billroth artery forceps until a ligature, if one is needed, can be applied. Before the wound is closed it should show no evidences of hæmorrhage, and before the final stitches are placed *in situ* the innermost recesses of the wound should be well flooded with the 1-1,000 solution. The same solution should be used to asceptieize the sponges, and in the interim between operations they should be left to soak in a one-per-cent. solution. When it is desired to wash out the uterus, as in cases of puerperal septicæmia, 1-2,000 is the proper strength to employ. In uterine irrigation, the method by simple hydrostatic pressure should always be used, as otherwise there is danger of introducing air with the syringe.

As a disinfectant, corrosive sublimate is the best agent we have, because of its germicidic properties (which are unrivaled), because of its cheapness and the simplicity of its preparation, and, what is very important, it has no odor. A solution of bichloride of mercury for disinfecting purposes is readily made by mixing it with an equal part of common salt, and dissolving in water in the proportion of one gramme to one thousand cubic centimetres, or one ounce to eight gallons of water.* As far as the danger of mercurialism goes, in my own experience embracing over four hundred cases, most of them severe cases, in hospitals in which no walking cases were admitted, I have seen only two cases of ptyalism, one in a negro woman aged 50, in whom the "dinner plate" amputation of the right mamma had been performed. Her condition was miserable from the outset, and after three weeks' continuous dressing with the 1-1,000 solution pyæmia developed, attended with uncontrollable diarrhœa; at the same time there was a marked increase in the salivary secretion, but no mercurial fetor and no blueness of the gums. The other case was that of a hospital nurse who, in order to get a holiday, simulated mercurialism; but careful investigation showed he was feigning. These two cases I mention because some of the house staff at the Pennsylvania Hospital, where they occurred, considered them as genuine cases of poisoning by the solution, though I believe that in reality they were not. At present the mercurial bichloride in the proportion of 1-1,000 is extensively used as an antiseptic in the Jefferson, Pennsylvania and Blockley hospitals in Philadelphia. Personally, I have used it in a large number of cases with the best results—among others, several cases of compound fractures, which did exceedingly well. In a recent number of the *Medical Record* I reported several cases of penetrating wounds of the abdomen in which, though brought into direct contact with the perinæum, no effects of mercurialism were observed, and the wounds healed promptly. It is to be hoped that some day it may be tried in a case of laparotomy. As a dressing, the sublimate has received the sanction of nearly all the continental and English surgeons—among them that of the great apostle of asepsis, Sir Joseph Lister. In America it is even more extensively used.—*Medical Times.*

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* *Medical News*, August 2.

IMPAIRED VESICAL FUNCTION. SIR HENRY THOMPSON.

The healthy functions of the urinary bladder are, first, its ability to retain a considerable quantity of urine without occasioning any inconvenience to the individual, and, second, its ability to empty itself easily and completely at will. These functions imply elasticity of the coats of the bladder, which is a mechanical attribute, and contractility, which is to be regarded as a "vital" attribute. Various morbid conditions have the effect of impairing these two vesical functions, so that the bladder may be unable to expand and retain a quantity of urine, or it may be unable to contract and expel the whole of it. The chief modes by which this impairment of vesical-retaining function takes place can be divided into three classes, as follows:

Class 1.—Enlargement of growth of the prostate, obstructing, more or less completely, the urethra at its entrance to the bladder, and so presenting an obstacle which the expulsive power of the bladder and associated muscles cannot surmount.

Class 2.—Loss of nerve-power to the muscles of the organ, constituting paralysis.

Class 3.—"Atony" of the structures of the bladder, invalidating their action; a term of doubtful import, and ordinarily so employed as to comprehend all other forms of vesical incompetence not designated by classes 1 and 2.

The first class, constituting prostatic hypertrophy and outgrowth, is familiar to all surgeons, and need not be dwelt on. There is one feature of this condition, however, that is sometimes overlooked. The most complete form of organic occlusion at the neck of the bladder may be present, giving rise to the most distressing symptoms, and yet the finger in the rectum is unable to detect any prostatic enlargement. A small prominence at the neck of the bladder is more dangerous than a large hypertrophy: the former often renders the patient absolutely incompetent to empty the bladder, while the latter, though more or less troublesome, seldom causes so much disturbance. In regard to the operation of section or resection of the obstruction, Sir Henry concludes that, where the retention has existed for some time, it is highly improbable that it will do any good, and may be even considered dangerous. When the little outgrowth can be dealt with in the early stage of its existence, a division of the tissues may overcome the obstruction and restore, wholly or partially, the function of the bladder. But even then the catheter can seldom be dispensed with.

In the second class of cases the impairment of function manifestly depends upon an injured or diseased nerve-centre, and the treatment must be directed to its restoration before improvement can be expected.

In regard to the third class, Sir Henry mentions three conditions that may give rise to impaired vesical function:

1. Chronic inflammation affecting the tissue beneath or outside the mucous membrane of the bladder. As an example of this, repeated attacks of ordinary cystitis can be taken. A single attack may pass off, leaving the bladder but slightly, if at all, impaired in function, but repeated attacks, by spreading to the

sub-mucous and muscular tissues, cause an hypertrophy of the walls of the bladder which is more or less permanent.

2. Chronic inflammation of the prostate and neck of the bladder usually following gonorrhœa. Repeated attacks of gonorrhœa, or want of care in its treatment, or the injudicious use of instruments, may give rise to an inflammation of the prostate with more or less persistent induration and swelling of the organ, causing an impairment of the vesical function of the bladder. While the nature of this enlargement is unrelated to that which constitutes hypertrophy, its effects may be the same. A small amount of urine is retained, and troublesome symptoms develop in consequence.

3. The presence of a calculus is a frequent cause of the failure of the bladder to empty itself, and this may persist for some time after the calculus has been successfully removed. This condition is one that is well understood, and the indication for treatment is plain, so that it need not detain us. In regard to the treatment in general, we quote Professor Thompson's conclusions, viz. : "It follows, from all the preceding considerations, that our chief reliance for successful treatment, in all the forms of impaired vesical function which give rise to retained urine, is the habitual use of the catheter ; and I must add that the remedy is not only most valuable, but that it is, for the most part, indispensable, and the sooner it is employed in the great majority of cases the greater is the chance of ultimate recovery, in addition to the immediate relief which the instrument affords. It is the failure to perceive this fact, especially in relation with the less obvious forms of incompetence, which has led, as I said at the outset, to my choice of the subject. The failure is due not only to the oversight of the pathological condition which demands mechanical aid, but to the strong and very natural disinclination which so widely exists to the employment of instruments—I had almost added to the prejudice which is entertained against them—and I fear that this, also, must be admitted."

CHOLECYSTOTOMY AND SOUNDING FOR GALL-STONES.—The *British Medical Journal* contains an able article, or at least one well calculated to arrest the attention of the thoughtful reader, from the pen of Mr. Lawson Tait, entitled, "Note on Cholecystotomy," wherein he gives a *résumé* of his operations, numbering thirteen to that date. All of the patients recovered. He advocates the method recommended by the late Dr. J. Marion Sims, and condemns absolutely those of Sir Spencer Wells and Langenbach. Sir Spencer Wells removed the gall-stones, stitched up the opening in the gall-bladder and closed the abdominal wound. The patient died from extravasation ; the gall-bladder, having become overdistended, burst the stitches. Mr. Tait claims that when the gall-bladder is emptied it soon becomes distended again, either with bile, or, more likely, with the clear albuminous fluid secreted by its mucous lining membrane, and that the force exerted by the muscular layer to secure its periodic discharge is much greater than is generally supposed. If there is a catarrhal condition of the cystic duct, or an undetected impacted gall-stone causing occlusion, the almost inevitable result will be rupture of the sutures, as in the case of Sir Spencer Wells. To obviate this accident, Mr. Tait makes a biliary fistula, communicating with the outside,* by stitching the walls of the cyst to the opening in the abdomen, just as the writer has been advocating and practising for several years for cases of injury of the intestine requiring suture. Sir Spencer Wells and all others should be willing to admit that external extravasation is the only safe method to dispose of superabundant secretions, or accumulations in any of the abdominal organs. Langenbach's excision of the gall-bladder he very justly disposes of as absurd, and, believing that most practical surgeons will endorse this view, that method will not be further discussed. In the July 5th and 12th Nos. of the *Medical Times and Gazette,* Dr. George Harley advocates the systematic searching for gall-stones by inserting a hollow needle into the gall-bladder through the abdominal walls and using it as a probe or searcher, operative interference to depend upon the knowledge thus obtained. The doctor recommends this method as a *new* procedure. It was first suggested and put in practice by Dr. Joseph Ransohoff, of Cincinnati, Ohio, the 20th day of April, 1882, and the doctor read an account of his operation, with the deductions derived from his experience, before the Surgical Section of the American Medical Association, at its meeting at St. Paul, in June, 1882, and published it in the *N. Y. Medical Record* for September 2d, 1882. Dr. Harley diagnosticated gall-stone in one case, and believed that manipulation, made use of during the exploration, so changed the relation of the impacted stone to the duct as to permit of its passage into the intestine, giving relief to the symptoms of obstruction of the gall-duct, to be followed by peritonitis consequent upon irritation caused by the gall-stone becoming entangled in the ileo-cæcal valve ; a very common thing for an escaped gall-stone to do. The doctor thinks that the detection or non-detection of gall-stone will save many patients from unnecessary operation. Now, it strikes the writer that the patient would have sustained a very much better chance for her life had there been an abdominal section made, and the stones either crushed with padded forceps, as practised by Mr. Tait, or had they been turned out by making an incision in the gall-bladder and stitching the opening into the abdominal incision. The entanglement of the stone somewhere in the alimentary canal producing obstruction, peritonitis and death, is far too common to be ignored in determining the method of treatment for gall-stone. Cholecystotomy may be and is indicted where there are no gall-stones, but where the irritation is caused by a catarrhal condition of the cystic or common duct occluding them for any length of time, it has been recommended that in such cases the distension of the gall-bladder be relieved by aspiration, if necessary often repeated. This the writer did nearly two years ago, but the procedure was not entirely satisfactory, although the patient is yet living. The reaccumulation caused a great deal of trouble and pain. Cystotomy is being practised by many surgeons for the relief of irritation and inflammation of the urinary bladder, and the practice will be followed yet for like conditions of the gall-bladder.

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* These are all cases for Gaston's operation.—E. S. G.

On Opening and Drainage of Abscess Cavities in the Brain.—The antiseptic method of operating and after-treatment has not as yet been fully tested in operations upon the brain. This is natural, for not only have we inherited a just dread of dealing with an organ the large majority of whose diseases are dangerous or fatal, but, our knowledge of the physiological functions of the brain and of their pathological modifications being extremely limited, we are not in a position to form such an accurate diagnosis as calls for surgical interference. Drs. Christian Fenger and E. W. Lee, of Chicago in an extremely interesting paper on this subject in the July number of *The American Journal of the Medical Sciences,* consider the treatment of traumatic cerebral abscess, and report a case which was successfully treated by opening and drainage. Bergman, in discussing the treatment of cerebral abscess, unhesitatingly sets it down as an axiom that wherever there is an accumulation of pus, trephining is most clearly and indubitably indicated, for the opening of an abscess in the brain is as necessary as in any other part of the body, and we would add even more so. A correct diagnosis of abscess having been made, the further difficulty presents itself of locating it with sufficient accuracy so as to be able to find it. A number of cases are on record in which a correct diagnosis had been made, the trephine also put on more or less at the right place, but the knife or trocar being passed into the brain, nevertheless, missed the abscess. Drs. Fenger and Lee show by their case that this difficulty can be obviated by multiple exploratory aspirations, performed at interstices sufficiently small to prevent any abscess from escaping detection even if the trephine opening should not have been made at the point of the skull nearest the abscess. There are on record a large number of cases of cerebral abscess in which trephining was performed, pus evacuated, and temporary relief obtained; but later relapse followed, and a fatal termination ensued. It is possible, judging from the success the practice has met with in the treatment of abscess in other situations, that drainage of the cerebral abscess cavity, with or without washing out, would have saved some of these cases, by preventing the reaccumulation of pus and the continuous infection of the surrounding brain tissue, the acute œdema of which is well known to be, as a rule, the final cause of death. As far as Drs. Fenger and Lee are aware, draining and washing out of cerebral abcess-cavities has heretofore not been tried; that it can be effected, and without any detriment to the patient, is shown by their case, the treatment of which they hold strictly conforms to the rational methods of modern surgery in treating abscesses in general; and because of this, and not because their patient recovered, they regard the case as answering affirmatively the question: Is it probable that abscesses in the brain can be treated advantageously on the same principles as abscesses in other parts of the body?

THE PROPER WEIGHT OF MAN.—Prof. Huxley gives the following table of what a full grown man should weigh, and how this weight should be divided: Weight, 154 pounds. Made up thus: Muscles and their appurtenances, 68 pounds; skeleton, 24 pounds; skin, 10½ pounds; fat, 28 pounds; brain, 3 pounds; thoracic viscera, 3½ pounds; abdominal viscera, 11 pounds; blood which would drain from the body, 7 pounds. This man ought to consume per diem: Lean beefsteak, 5,000 grains; bread, 6,000 grains; milk, 7,000 grains; potatoes, 3,000 grains; butter, 600 grains; and water, 22,900 grains. His heart should beat 75 times a minute, and he should breathe 15 times a minute. In 24 hours he would vitiate 1,750 cubic feet of pure air to the extent of 1 per cent.; a man, therefore, of the weight mentioned ought to have 800 cubic feet of well-ventilated space. He would throw off by the skin 18 ounces of water, 300 grains of solid, and 400 grains of carbonic acid every 24 hours, and his total loss during the 24 hours would be 6 pounds of water, and a little above 2 pounds of other matter. In this connection we read that Dr. Schweninger, of Munich, has discovered a new mode of reducing the bulk of the human frame. It is, never to eat and drink at the same time, but to let two hours intervene. He has, it is said, cured Prince Bismarck of a tendency to obesity in this way. Fat people have now their choice between four systems: 1. The original Banting, which consists of eating nothing containing starch, sugar or fat. 2. The German Banting, which allows fat, but forbids sugar or starch. 3. A Munich system, which consists of being clothed in wool and sleeping in flannel blankets instead of sheets. 4. Not eating and drinking at the same time.

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A NEW FIELD FOR THE ASPIRATOR.—A. H. Garnet, M.D. (*Cincinnati Lancet and Clinic*, January 6, 1883,) says, after having tried in vain to relieve a patient suffering from retention of urine, we were about at our wits' ends, when the aspirator was brought out. The needle was detached, and the rubber attached to a catheter previously introduced into the bladder. The aspirator was then worked upon the principle for which it was devised, and the powerful suction not only dislodged the clots, but drew them through the instrument, and they were discharged along with the urine through the escape tube of the aspirator, to the relief of both doctors and patient.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European Societies as are most interesting and instructive.—ED.]

NEW YORK STATE MEDICAL ASSOCIATION.

IT was the purpose of the editor of this JOURNAL to furnish an extended notice of the late proceedings of this Body, but as two weekly medical journals of this city have already done so, the official proceedings are now very generally known. It will be, therefore, the better course for this JOURNAL to submit from time to time some of the many valuable papers read at that meeting, and this will be accordingly done. It is impossible for a monthly journal to produce as rapidly as does a weekly the proceedings of such a Body, but by waiting there is this great compensation for the readers of a monthly: they are saved the reading of very much wearisome detail of no interest or value, while the debates, if valuable, and the papers so often valuable, can be published at leisure. Papers and debates must be of little value indeed, if they are less valuable a few weeks after a society has adjourned.

CHICAGO MEDICAL SOCIETY. Stated meeting held November 10, 1884; Dr. A. K. STEELE President, in the chair. (Prepared expressly for GAILLARD'S MEDICAL JOURNAL.)

There was a large attendance of members and visitors to hear the following reports:

1. Two cases of Gastrostomy; Two cases of Excision of the Rectum; Remarks on Litholapaxy; A New Instrument for Varicocele. By Dr. Edmund Andrews.
2. Political Abuse of the Insane. By Dr. A. V. Clevenger.
3. Fourth Annual Report of the Shan-Tung Dispensary and Hospital at Pang-Chia-Chuang. Prepared by Dr. Henry D. Porter, and read by Dr. John H. Chew.
4. Special Report of Committee on National Sanitation.
5. Hydrochlorate of Cocoaine, Illustrating its use in Ophthalmic and Nasal Surgery. By Drs. B. and J. Bettman.

The following recent cases in the surgical practice of Dr. Edmund Andrews are of interest, because of the numerous unsettled questions which cluster around the operations referred to. The first two cases instanced, viz., gastrostomy—which by way of preface was stated by the author to be a barbarous word or etmyological blunder so far as literary usages are concerned, composed partly of Greek and partly of Latin. "The philological monstrosity" being apparently an attempt by its author to enlarge the word gastrotomy, which literally signifies stomach-cutting, and by the addition of a letter to signify a mouth, so as to make the compound mean a cutting of the stomach to make a mouth—literally, a stomach-mouth cutting. The writer dilated further upon the word relative to its derivation, meaning, etc., and closed by saying that the word should be gastrostomaty, and even then there would be nothing left in the compound to signify the cutting; therefore, to express the full meaning of stomach-mouth-cutting would require the form gastro-stomatomy, a term whose length and harshness of sound are sufficient for its condemnation. Suffice it to say euphony in sound and scholarly composition are two important requisities which are often ignored by surgical authors, both of skilled and pedantic pretensions, and proceed to a perusal of a brief synopsis of the balance of the paper.

Case 1.—A little girl, aged 6 years, swallowed some concentrated lye several months previously, cauterizing the lower part of the œsophagus and gradually inducing a stricture. Dr. E. P. Cook, of Mendota, Ill., dilated the stricture, after which the child was sent home greatly improved. After leaving his care she relapsed. She was then placed in care of the writer. Upon her arrival it was ascertained that she had been unable to swallow anything for a number of days; dilatation was essayed, and the patient improved for a time—regaining a partial power of swallowing liquid food. However, it was soon perceived that the advantage thus gained could not be maintained, and after faithful trial it became evident that the little one was gradually starving. So-called gastrostomy was then performed in a room which had been sprayed for an hour with carbolic acid, but the spray was not permitted to touch the peritonæum. [The surgeon insisted throughout his remarks that gastrotomy is the more scholarly term.—Rep.] The usual incision was made in the hypochondrium, from the xiphoid cartilage downward and to the patient's left. The colon was found partly in the way, but it was easily pushed downward. The stomach was then drawn out with long-toothed forceps; the viscus was identified by the relations of the gastro-epiploica vein, and secured to the abdominal wall by a long suture on each side, as starvation it was feared would ensue had not this plan been pursued and the patient's life still further jeopardized. The stomach was opened at once, and its edges sewed closely to the skin all around the incision. There was a good deal of shock, but reaction occurred, and union by first intention followed without difficulty and with no peritonitis. Peptonized food was regularly inserted, and on inspection was found perfectly digested, except when meat was used. This, whether raw or cooked, would be ejected from the wound unchanged, even when retained 24 hours. For some days the patient improved, but it soon became evident that most of the food, though digested, did not pass through the pylorus. It seemed that this orifice of the stomach required a little pressure to unfold it, and that whenever the stomach contracted for the purpose the chyme escaped by the fistula into the dressings, and did not pass on into the intestines. A rubber pad tight enough to stop the outflow could not be tolerated. A soft rubber tube with a flange and valve was substituted, in which the inner disc could be adjusted to the inner wall of the stomach; then, by clamping the tube outside of the outer disc to the wall of the abdomen, a perfect valve was obtained which prevented leakage. The effect of the inner disc on the walls of the stomach was feared at first, but it produced no perceptible irritation. The opening in the stomach was purposely made pretty large, the surgeon hoping at a future time to introduce a finger upward into the lower end of the œsophagus, and then by pushing down upon it would succeed in restoring the natural passage. As above stated, the valve retained the food perfectly, and the patient took an abundance, and even learned to know when she was hungry and to call for her meals. The improvement was but temporary, however, and she began slowly to fail without obvious cause. The power of assimilation seemed to exhaust itself, and she constantly grew weaker. At the thirty-fifth day after the operation it became evident that she was at about the end of her life. The last twenty-four hours were accompanied by an obscure fever.

Case 2.—An adult male patient six months ago swallowed some caustic ammonia, producing a contracting ulcer of the lower part of the œsophagus. In September last he placed himself in the care of the writer, having been unable to swallow anything for some days. By a persistent use of bougies the stricture was dilated and the power to swallow liquid food restored. He then returned home, having learned to introduce the bougie himself. In time, however, he lost the art of passing the instrument, and in October returned in the same condition as before; diligent trials to dilate the stricture a second time gained only a slight temporary power of passing small quantities of liquids a day or two at a time, and within a week or so it was perceived that his progress was downward, and that he was slowly starving; moreover, the point of the bougies seemed to be creating a local inflammation in the right lung, as if they were making a false passage in that direction. To continue their use, therefore, was not deemed judicious, and they were accordingly discontinued, and an operation was decided upon at once and not allow the patient to become weaker. The operation was the same as in the former case, except that the opening was smaller. The same difficulty of regurgitation of the food occurred, and was controlled by a similar valve. The patient is now doing well, and bids fair to recover; and at time of reading the paper, thirty-two days since the operation, is improving nicely. The method pursued by Mr. Howse, of London, and those of other surgeons, was dwelt on to some extent, with their advantages, disadvantages, etc. The operation should be done with extreme caution. Regarding the statistics of this operation, this is not very cheerful. Of 207 recorded cases forty were for cicatricial stricture of the œsophagus, like those just cited; of these forty, twenty-one died; yet when no other hope of life or relief is offered an operation which gives them one chance in two is a great benefit.

EXCISION OF THE RECTUM,

of which the author cited two cases that he at present has under treatment, your reporter has summarized as follows:

Case 1 was ephithelioma not reaching down to the verge of the anus. In operating, the entire external sphincter was saved, the incision was carried from an inch in front of the anus back to the coccyx, opening the anus anteroposteriorily and cutting off the gut just above the verge. After dissecting it upward a little and tying numerous vessels, the rectum was separated from the pelvic chamber, mainly with the finger, and the tube divided about three inches upward, just above the top of the cancer. There was no shock, and not much subsequent pain or inflammation.

The second case was almost exactly a repetition of the first, except that the verge of the anus was involved in the disease, and consequently was dissected out with the rest. Both patients are doing well, and are exceedingly comfortable, but it is too early to state whether there will be any return of the disease.

Statistics.—The statistics are much like those of epithelioma elsewhere. Billroth, of Vienna, thinks he permanently saves about one-third of the cases. Other authors were cited, and lastly, of 608 cases collected 140 died of the operation, and one hundred of those who survived the operation, whose accounts were traced up, thirty-one were doing well at the end of one year, and seventeen were alive and well with no return of the disease at the end of three years.

LITHOLAPAXY.

Dr. Andrews has operated twenty-three times, with one death. He is confident that the plan he pursues of keeping the nerves of the bladder benumbed during the operation, by filling it with carbolized water, tends powerfully to prevent both shock and inflammation. It is worthy of inquiry, said he, whether the remarkable local anæsthetizing properties of the new agent, cocoaine, would not enable us to operate without ether and without producing shock.

A NEW INSTRUMENT FOR OPERATING ON VARICOCELE

was the next topic discussed by the writer. Operations for destroying the veins in varicocele have occasionally produced death, and in other cases resulted in neuralgic scrotum with or without atrophy of the testicle. Many surgeons have followed the lead of Prof. Frank Hamilton in preferring Sir Astley Cooper's plan of shortening the scrotum sufficiently to make it its own suspensory bag. This operation is vexatious, because the imperfect character of the old-fashioned adhesive plasters rendered it difficult to support the sutures sufficiently to secure union by first intention. Now that we have the rubber plaster, which never lets go its grip, we can cut the scrotum very short and still hold the wound firmly together and secure a triumphant success. Sundry clamps have been invented to hold the skin of the scrotum firmly while the surgeon cut it off and sewed it up ; the evil of the clamp is that it compresses the arteries so that after cutting away the pouch, the surgeon is unable to find and ligate the vessels. If he sews up the wound without attending to this point, experience shows that after the clamp is removed hæmorrhage often takes place inside the scrotum, distending it with clot and forcing open the wound, thus delaying the cure. To meet this difficulty, the author has devised a kind of "varicocele bow," which he exhibited, and described as follows : "It consists of two curved parallel bows connected at the ends and enclosing a slot three-eighths of an inch wide between them. Twelve holes are drilled through the bars of a size to admit ordinary pins. The surgeon draws the scrotum through the slot (having the concave border towards the base of the scrotum) to such a distance as he deems sufficient, secures it there by inserting, one by one, as many pins as he finds necessary to hold the pouch securely. He then cuts off the scrotum outside the convex border of the bars. As the scrotum is not pinched by the instrument the blood spouts freely, especially from the artery at the raphe. The operator can carefully and deliberately secure every bleeding point. This being accomplished, he sews the cut edges together, and then, drawing out the pins, removes the bow and applies his plasters. The neatness and despatch of the operation are thus greatly enhanced.

POLITICAL ABUSE OF THE INSANE

was another important topic, by Dr. S. V. Clevenger, who submitted a lengthy treatise relating to the condition of affairs at the Cook County Insane Asylum. Portions of the paper alluded to the young science of psychiatry, but the bulk of it was upon the manner in which the inmates of that institution, and many others in the United States, are treated and cared for, which, if true, as was alleged by the essayist, depicts a picture of inhumanity seldom revealed in this Christian country, and should be thoroughly investigated. A committee of five members was then appointed by the Society to investigate and remedy the abuse.

An interesting paper, "The Fourth Annual Report of the Shan-Tung Dispensary and Hospital at Pang-Chia-Chuang," prepared by Dr. Henry D. Porter, who was a number of years a resident missionary in China, was read by Dr. John H. Chew, giving the author's experiences and views as to diseases most prevalent in the Orient.

The address was keenly appreciated, and a vote of thanks extended to the writer.

In behalf of the Committee on National Sanitation, Dr. John Bartlett presented the following special report:

Mr. President: The committee appointed at the meeting of this Society, September 15, 1884, to consider and report upon a series of resolutions presented by Dr. Liston H. Montgomery having reference to national sanitary matters, respectfully report the following preamble and resolutions as suitable to be adopted:

Whereas, Experience has firmly established the fact that the ravages of certain infectious and contagious diseases may be in good measure prevented, controlled, or arrested by the enforcement of suitable sanitary regulations; and

Whereas, The United States is constantly exposed to the importation of disease from foreign countries, and, because of the facility and rapidity of inter-State transit, to the rapid spread of infection once finding lodgment on our borders; and

Whereas, This exposure, because of the prevalence of cholera in Europe, is just now unusually great; and

Whereas, The facts are, the matters of sanitation are in some of the States of this Union entirely neglected, while in others they are simply taken cognizance of by the appointment of Boards of Health, in their functions advisory only, and not vested with powers of authoritative action; and

Whereas, Any of these State Boards of Health, as now constituted, may prove derelict or inefficient in its duties, or act without concert with, or even in antagonism to the Boards of other States; and

Whereas, The exigencies occasioned by the appearance of violent epidemics, demand organized means for the prompt recognition of the outbreak of disease, and vested with authority limited in its area by the boundaries of the country only, to take such immediate steps in matters of protection, as vaccination, isolation, quarantine, etc., as experience has taught to be useful; and

Whereas, No national authority in sanitary matters now exists; therefore,

Resolved, That it is the judgment of the Chicago Medical Society that the sanitary interests of the United States demand the establishment of a national health authority, which shall have for its main functions the detection of pestilential and epidemic diseases, and the enforcement, where necessary, of sanitary regulations tending to prevent, to abate, or to suppress them;

Resolved, That, as a step toward the consummation of the idea suggested in the foregoing resolution, a committee of three be appointed by this Society to collate facts tending to show the usefulness, and necessity of a national sanitary organization, and to compile the same in such form as may be available for disseminating information upon, and creating an interest in national sanitary legislation;

Resolved, That the said committee be empowered and instructed to urge the importance of national sanitary legislation upon the attention of the Congressional delegation from Illinois, and fittingly to present the subject to the representatives of the people in both Houses of Congress, all of which is respectfully submitted.

Signed. O. C. DE WOLF, *Chairman.*
R. E. STARKWEATHER,
L. H. MONTGOMERY,
JOHN BARTLETT,
J. H. ETHRIDGE,
A. R. JACKSON,
J. H. HOLLISTER.
Committee.

The resolutions were unanimously adopted.

HYDROCHLORATE OF COCOAINE

Upon this remedy papers were read by Drs. B. and J. Bettman, giving experiences of its use in ophthalmic and nasal surgery, a synopsis of which is herewith presented.

"Muriate of Cocoaine as a Local Anæsthetic" was the title of the first paper, read by Dr. Boerne Bettman. Hardly two months have passed since the introduction of this valuable adjunct to medical science. Already many clinical and physiological observations have been noted down in our medical archives. Glowing indeed, are the accounts sent from the East of the effects of this drug. Dr. Hayes was the first who called the attention of American physicians to the new anæsthetic. His letter from Kreuznach, September 19, 1884, contains a full account of the proceedings of the Ophthalmological Congress at Heidelberg, where Professor Becker demonstrated the action of this remedy before the Assembly

The papers of Dr. C. R. Agnew, W. Oliver Moore, James L. Miner, Claiborne

Gruening, Knapp, etc., were then referred to, but to Dr. Koller, a Viennese student, who discovered the application of muriate of cocoaine to the eye, should the honor be attributed of first introducing this alkaloid to the Profession. It appears he became aware of its anæsthetic qualities from seeing or hearing of its application to the larynx to deaden the sensibility of the vocal cords. The remedy is the alkaloid of the leaves of erythroxylon coca, a shrub growing extensively in South America. A few grains of the highly-prized drug were recently obtained and used by the writer in a series of cases, but in order to become more thoroughly acquainted with its physiological effects a few drops were instilled into the writer's right eye, and a few drops also into the left eye of his brother. Two drops of a four per cent. solution of cocoaine applied to the left eye of Dr. J. Bettman produced in a few minutes a feeling of slight stiffness. In two minutes complete anæsthesia set in, permitting the manipulation of the cornea with a brush and probe, and without causing the slightest pain. Sensibility began to return after ten minutes, and was fully restored in fifteen minutes. In sixteen minutes the pupil showed a slight dilatation, while in two hours the dilatation was moderate.

Repeated applications of the drug produced more pronounced and lasting effects. Four drops of cocoaine induced a maximum dilatation in 25 minutes, and not until 18 hours afterwards did the pupil assume its normal size. Reaction to light in the anæsthetized condition was prompt. The action of cocoaine was similar to those recounted. Sensibility to touch disappeared in five minutes; ten minutes later the pupil dilated. Distant vision remained the same, the accommodation was decidedly influenced, the near point having receded from four inches to twelve.

Snellen 0.5 was read at four inches with the aid of +14. The mydriasis was complete in half an hour; the benumbing effects of the drug now began to disappear, and passed away entirely in three-quarters of an hour. The dilatation of the pupil lasted eight hours. The outer surface of the right lid was rendered insensible to the pricking of a pin.

Case 1.—Oloff D., æt. 22, consulted the author for a stricture of the nasal duct. A few drops of a four per cent. solution of cocoaine produced complete anæsthesia in three minutes. A Weber's knife was introduced into the canaliculus, shoved forward into the sac, and the duct slit open, with but trifling pain to the patient.

With an Anal's syringe a few drops of cocoaine were injected into the nose. Five minutes later the firm stricture was forced with a Bowman's probe. The pain, according to the patient's statements, was 75 per cent. less than that experienced five years ago, when subjected to a similar operation. Anæsthesia lasted fifteen minutes.

Case 2.—A piece of steel had been embedded in the cornea of the eye of a policeman for two days. The eye was extremely sensitive. Two drops of cocoaine benumbed the organ in three minutes. The digging out of the mote with a spud was painless.

Case 3.—Mr. M. complained of severe earache produced by an otitis media acuta purulenta. The introduction of a cotton holder or speculum was not permitted. Instillation of two drops of cocoaine was followed by almost immediate cessation of pain, when the ear could be manipulated without the slightest annoyance to the patient.

Case 4.—The most glowing results were obtained in the case of Mrs. T. A cataract operation was performed on the right eye. Several drops of cocoaine applied every few minutes produced complete anæsthesia in ten minutes. The corneal section was made without the patient being aware of the fact. The only step in the operation which caused the slightest pain was excision of the iris; at this stage, when questioned about the sensation, she remarked, "it felt as if a pin were pricking her." She expressed herself highly pleased with the action of the drug, assuring the operator repeatedly that with the exception of the slight pricking pain she had felt absolutely nothing of the entire operation. The wound has healed nicely, and her sight is good. The physiological and therapeutical effects of the alkaloid may be tabulated as follows:

1. Hydrochlorate of cocoaine is a powerful local anæsthetic, not penetrating in nature, rapid in its effects, which, however, are only temporary.
2. It is a mydriatic, the effect of which is regulated by the strength of the solution.
3. It produces paralysis of the ciliary muscle, the near point receding from the eye. Distant vision is not influenced.
4. By virtue of its benumbing powers it may be classified as an anodyne.

Dr. R. Tilley discussed the paper upon the principal points it contained, and then yielded the floor to Dr. J. Bettman, who read an elaborate report of a case illustrating the applicability of

MURIATE OF COCOAINE IN NASAL SURGERY.

The glowing tributes this remedy has already received in Europe and in the East render irrefutable its qualities as a most efficient and innocuous local anæsthetic. Its action on the nasal mucous membrane, demonstrated by Knapp and Gruening, is similar to that on the eye. A small quantity of this drug was obtainable recently and the experience of the observer has therefore been limited to the case subjoined. The results obtained realized most sanguine expectations, and demonstrated its signal value in nasal surgery.

Dr. K., a physician of this city, has been under treatment suffering from asthma nervosum. The asthma is purely reflex, induced by great hypertrophy of both inferior turbinated bones. Excepting an occasional obstruction to free nasal respiration, but little discomfort was experienced during the day. A recumbent position, the warmth of the bedding are sufficient to produce a reflex turgescence of the lower turbinated bones, a subsequent serous discharge, and, to complete the clinical picture, a culminating violent attack of asthma. The nares are extraordinarily hypersensitive. The introduction of any instrument into the nose is exquisitely painful. Previous treatment had consisted in applications of galvano-cautery to reduce the volume of the erectile tissue in the nose. The abnormal sensitiveness, however, would only permit of but superficial cauterizations, and the results obtained were but partially successful. On the 7th of the present month the writer resolved to apply the muriate of cocoaine prior to cauterization. A pledget of cotton of sufficient size was soaked with fifteen drops of a four per cent. solution of the remedy and placed in the inferior meatus of the left nostril. In ten minutes the nostril was perfectly anæsthetized. At the end of a quarter of an hour the plug was removed and the parts thoroughly cauterized with a sharp-cutting electrode. The period of application exceeded three seconds, and produced but a minimum degree of pain. In fact, the discomfort was so trifling that the hitherto sensitive colleague cheerfully submitted to a second, vigorous application at the same sitting. After a period of twenty-five minutes sensibility of the parts was fully restored. The action of the white heat was so thorough that its ultimate results will probably eclipse the benefit derived from previous more superficial applications of the cautery.

At a late hour the Society adjourned. LISTON H. MONTGOMERY.

MEDICO-LEGAL SOCIETY.

A paper read before the Medico-Legal Society, of this city, some weeks ago, by Dr. Johnson, of Brooklyn, upon "Poisoning by Canned Goods," attracted the attention of Dr. Thomas Stevenson, of London, Government Analyst, and he wrote a short monograph on the same subject and sent it to the society. It was read at a meeting of the society in Hamilton Hall, Columbia College, by Dr. J. A. Irwin. Dr. Stevenson says that no positive case of acute metal poisoning by canned goods is known in London. It is reasonably certain that where persons have been poisoned by eating canned meats, the meat itself was tainted before canned.

In February last, the doctor continues, there were in Glasgow several cases of poisoning from tinned provisions. The symptoms were those of gastro-enteritis. An analysis showed salts of tin present, but it could not be proved that the illness was due to the tin. That canned goods usually contain traces of tin has been shown by several British chemists, and is a well-established fact. That such provisions do not usually produce any serious results is a matter of common experience.

"I am not prepared to say," remarked Dr. Stevenson, in closing, "that tin compounds are inert, but evidence is wanting to show that the daily injection of fractions of a grain of tin compounds is manifestly injurious to health."

Dr. Irwin followed with a short paper of his own on the same subject. It appeared to him, he said, that before the question of danger to health from using canned goods could be determined it was necessary to settle two questions: First, Are the canned goods now in the market contaminated at all by tin? If so, is the contamination of a nature likely to endanger the public health? The first question must be settled by the analytical chemist. Dr. Stevenson's paper showed that while foods in tin usually take up salts of tin, they are not usually injurious. An eminent authority had said the Public had not the faintest cause for alarm on the subject. Certain salts of tin are never used except for artistic and commercial purposes. Chloride of zinc is a highly-poisonous substance, and never given internally. Salts of tin are unquestionably corrosive irritant poisons. Yet not a case of fatal poisoning from meats in which they had been detected had been recorded.

Dr. Irwin agreed with Dr. Stevenson that meat of an inferior quality or tainted is often canned. As to the length of time during which provisions can be kept in tin there was no exact knowledge. He had eaten canned fruits in Patagonia which had crossed the equator twice, and which had certainly been in cans for a year. Personally he had never suffered from such food. He believed, however, that food long canned becomes detrimental, and could see no objection to a law compelling manufacturers to stamp cans with the date of sealing.

BIOGRAPHY.

Edmund Pendleton Gaines, M.D., died in Mobile, on Sunday, the 7th of December, in the 60th year or his age. Dr. Gaines was one of the leading physicians of that city. He graduated at the University of Pennsylvania in 1846, and soon thereafter commenced the practice of his profession in Choctaw County, Ala., where he continued the same for several years, after which time he removed to the City of Mobile, and gradually worked himself into the confidence and esteem of the Profession and community at large, until at length he became one of the leading physicians of the city—doing, probably, the largest general practice of any member of the profession. He was universally beloved by all classes of the community, and was noted for his charity. His death has fallen like a pall upon the entire community, as was attested by the deep grief of the immense concourse of all classes of people who followed his remains to the tomb.

For many years past Dr. Gaines has been in feeble health, and almost physically unable to attend to the exhausting duties which he unselfishly imposed upon himself. Still, such was his indomitable energy, that he gave himself no rest either day or night, and it may be truthfully said of him that he "died with the harness on his back;" for, despite the urgent solicitation of friends, he went his usual rounds until within three or four days of his death.

During the late war he was in charge of the Alabama Hospitals at Richmond, Virginia, and continued to discharge all the duties of his office until failing health compelled him to resign his position and return home. At one time he was the President of the Mobile Medical Society, President of the Alabama Medical Association, and member of the local Board of Health. At the time of his death he was Professor of Clinical Medicine in the Alabama Medical College. He was a man of marked character, and merited the universal respect and love of all our people. M.

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Insanity in a Ten-Year-Old Boy.—Dr. Ringrose Atkins (*Dublin Journal of the Medical Sciences*, March, 1884) reports a case of acquired mental derangement in a boy, nearly ten years old, which was believed to be due to fright consequent on accidental immersion. For the past eight months the boy has been progressively losing mental power, and lately has become excitable, extremely passionate; using, when aroused, foul language. He is quite incoherent, and the volitional and emotional faculties are deeply affected. The (*Journal of Nervous and Mental Diseases*) history of the case suggests epilepsy, but as to that nothing is said by Dr. Atkins.

ORIGINAL CORRESPONDENCE.

15 Rue Caumartin, Paris, December, 1884.

To the Editor of Gaillard's Medical Journal:

Dear Doctor: Flesh and blood are very inconvenient things for a doctor. He should be constructed of iron, so that he could never break down or give up. When can he conveniently surrender to a chill or a cold or an indigestion or any of the ills to which humanity is heir? What time has he to indulge in the privilege of a course of medicine, or a period of repose? His obligations are paramount and eternal. His duties demand a constant maintenance of the *status quo*—a perpetual possession of the *mens sana in corpore sano.*

These reflections are apropos of the excuse which I have to offer for the non-appearance of a letter for the last number of your Journal, for they are inspired by the fact that I have been ill, when professional demands were importunate, and to an extent which has precluded the possibility of a compliance with my promise to you.

Thirty odd years ago, when I commenced life as a young doctor in the swamps of North Carolina, the seeds of malaria were sown in my system, and have been germinating there ever since. Alike upon the shores of the Chesapeake, the banks of the Nile and quays of the Seine —wherever my feet have wandered—they have found a *modus vivendi,* and have cropped out, now and then, in an attack of "chills and fever," with all of their concomitant discomforts.

Nor is my experience in this regard exceptional. I have only recently attended a lady in an attack of "intermittent fever," who has resided in Paris for twenty-five years, and who, at long intervals, has suffered with such attacks. As malaria, in the American sense of that term, is not indigenous to France, I have found it difficult to account for such manifestations.

What theory will explain the fact that a system, otherwise healthy, surrounded by favorable hygienic conditions, and removed from malarial influences, should have stored away in it morbific elements, which occasionally shape themselves into the form of a genuine "intermittent fever?" Habit cannot be accepted as furnishing a solution, because that would imply continuity or regularity of manifestation, whereas, the attacks only occur at long and irregular intervals, and without the apparent influence of any fixed laws.

Microbes, I know, stand godfather to nearly everything in these latter days; but, admitting their almost limitless vitality and fecundity, it is difficult to understand how it is that germs should exist for so long a time in a system without modifying or impressing it in any appreciable manner, and with only an occasional manifestation of life and activity. How is it to be accounted for? What is the true explanation of this pathological mystery? With malarial manifestations in another form I have had much to do since my residence abroad. Typho-malarial fever, or, more correctly speaking, malarial-typhoid fever, taking the order of symptoms into consideration, is a disease which claims a large number of victims among the foreigners who visit Italy and the East, and the spring-time of every year brings many such cases to Paris.

It is familiarly known as Roman fever, for the reason that a majority of the cases originate in Rome, as the popularity of that city with the traveling community attracts crowds of visitors annually, who recklessly expose themselves to its miasms, especially during the season of religious dissipation and excitement.

This disease is especially interesting, because it illustrates the effects of two exciting causes—the one vegetable and the other animal—acting conjointly upon the human system, and producing, concurrently, symptoms peculiar to themselves, and essentially distinct from each other. There are imbibed, contemporaneously, that form of malaria which expends itself upon the liver and spleen, and induces periodicity of manifestation, and that species of miasm which expends itself upon the glands of the intestine, and develops continuity of symptoms, each obeying its own clinical laws, and presenting its characteristic phenomena.

Roman fever is not, therefore, a distinct and homogeneous entity, but a dual disease—a pathological hybrid—to which both remittent and typhoid fever contribute an equal proportion of lesions, symptoms and indications.

Quinine is the Ajax Telemon of remedies in this affection. The great point is to stamp out the true malarial element before the system has become debilitated to that extent which precludes resistance on its part to the typhoid germs with which it has likewise become surcharged. In all old and densely-populated countries these germs exist, and are habitually taken into the blood, to be neutralized by its inherent power of conservation, or to become the source of infection to the system, as the case may be. If the malarial element be not promptly eradicated or controlled, it paralyzes the defensive principle of the organism, and renders the destruction of the typhoid germs impossible, and indirectly assures the development of the threatened typhoid state.

If it be impossible to destroy the true malarial elements in time to prevent the development of typhoid fever, the indication for the employment of quinine is still imperative, since it tends to relieve the system of one of its burdens, and to conserve its powers for the support of the other, which is sure to tax it to the fullest measure of its capacity.

Of course, from the first moment, and throughout the attack, the patient must be sustained—must be given milk alternately with good animal broth, as often as every second hour. As regards the use of stimulants, I am convinced that more harm than good is done by them from the indiscriminate manner in which they are employed. In many cases they are invaluable, and can only be dispensed with at the sacrifice of the patient's life. In others, they are positively injurious, stimulating the heart to a momentary effort, but leaving it exhausted and powerless afterwards. The thermometer should be the guide in this regard—an increase of temperature at the moment of their administration, or its abasement afterwards, contra-indicating in emphatic terms their employment.

I have great faith in salicylic acid in the early stages of this disease, and in typhoid fever generally, not only because of its antipyretic properties, but as a germ destroyer; while I am convinced that the occasional exhibition of a small dose of opium tends to keep the stomach quiescent, and thus to allow the employment of nourishment, and to maintain the equilibrium of the nervous system.

Much experience has convinced me that the "cold bath treatment" in this disease is a dangerous experiment, since I have never attempted it without having hæmorrhage from the bowels (which is always to be looked for and dreaded in Roman fever) occur sooner or later as a result.

Why this special tendency to hæmorrhage exists it is impossible to say, but such I know to be the fact. Twice I have seen it produced, and prove fatal, by the exhibition of a mild purgative, which was given in each case after consultation, and in opposition to my emphatic protest; and I know of an instance in which it occurred as the result of an injection of phenic acid, which was given, with the idea of "disinfecting the bowels," by one of the ablest physicians of Paris. In the latter case I resorted to transfusion, with the result of snatching the patient apparently from the very jaws of death, for the time being.

So great is my apprehension of hæmorrhage in Roman fever that I make it an invariable rule to administer ergot after the tenth day, to lock up the bowels by injecting regularly a few drops of laudanum in mucilage, and to discard altogether the use of poultices, employing cold compresses in their stead.

As a general rule, hæmorrhage seems to be the climax of the disease, the patient either succumbing speedily or showing signs of convalescence, from the moment of its occurrence; while I am convinced that the larger percentage of recoveries after the manifestation of this symptom is greater than in ordinary typhoid fever.

You must excuse my going into these details, as they may not prove of general interest, since the disease to which they relate is more of a European than an American specialty. The fact that I have found myself at issue in various regards with many of my confrères here has imperceptibly carried me farther into this matter than I had intended. The French do not know how to use quinine, and they are still in the dark as regards the value of milk in disease.

After many false alarms cholera has finally invaded Paris. In view, however, of the comparatively good sanitary condition of the city, the absence of anything like panic among the French people, the speedy coming of frost, and the fact that the disease has seemed to diminish in intensity as it has progressed, I am convinced that the epidemic will prove neither a severe nor a protracted one. Its arrival has surprised every one, but especially the Academicians. It has certainly not followed any direct "line of travel," and it seems to have broken out as mysteriously as it originally did at Toulon. It is an established fact that its first victims had not been exposed to contagion, and that it occurred simultaneously in various quarters of Paris—each being, however, a specially insalubrious one. Up to this time, it has confined itself to certain unhealthy purlieus, and has only attacked the lowest and most wretched portion of the population, while the percentage of mortality has been unprecedentedly low. Jules Guérin is said to be in a state of ecstacy over the vindication of his views, while Fauvel has actually died of mortification, because his prediction in regard to the local limitation of the disease has been contradicted by its progress throughout France. So much for seeking notoriety at a venture, and playing the rôle of a prophet under the inspiration of conjecture alone! It seems that in the days of the Empire he was one of the celebrities of Paris, and that of late he had specially devoted himself to "State Medicine," little dreaming that he would die of an epidemic of cholera —by indirection.

The question of the contagion of cholera has made a certain Dr. Boche-Fontaine the hero of the hour. In the exuberance of his zeal as a non-contagionist, he has regaled himself with the dejecta of cholera patients, with the result of experiencing no symptom of the malady, and of rendering himself the most notorious man in Paris. Upon the strength of this *argumentum ad nauseam*, I expect to see him enrolled before long in the list of the Immortels, or enjoying the honor of having a street called after him, which seem to be the prize most esteemed here at present.

The panic produced by the appearance of cholera in Paris has confined itself to foreigners. The Parisians proper have really appeared gayer than usual, for the places of public amusement have been unusually well patronized during the past week, while the boulevards are continuously crowded with pleasure-hunters and sight-seers. The police records show, also, that an unprecedentedly large number of visitors have arrived in Paris since the appearance of the malady—coming from the provinces and the cities of France. The hotels and boarding-houses usually patronized by English and Americans, however, present a scene of desolation which must be witnessed to be adequately realized. The Continental and the Grand, which a fortnight since were crowded to repletion, are as silent as tombs, and as empty as the head of an average *savant.* You would suppose, upon entering their courts, that a first-class funeral was in progress. The traditional "banquet hall deserted" is a place of festivity compared with their vacant corridors, their silent *salons de lecture* and their deserted *tables d'hote.* There has been a veritable exodus of English and Americans, and the English language is as unfamiliar in the Rue de la Paix as was the French tongue a little while since.

And what do you suppose has brought about the panic, fright and ruin of business? Not the extent of the epidemic—not the virulence of the disease—not the instructions of the Faculty, but nothing more nor less than the foolishness of a single physician. Having been called upon by certain interested parties to write a letter for the press which would properly present the situation and allay the excitement of the foreign mind, he concluded a long and labored effort by saying that the only persons to whom he would give the advice to leave were the sick, the frightened and the intemperate. As great publicity was given to this letter, it followed that everyone who had had a *soupçon* of a symptom within the year, or who felt the slightest apprehension in regard to the disease, took the warning as specially applying to himself, and precipitately fled, leaving the hotel keepers to the contemplation of their depopulated premises, and to reflections on the immortality of the race of fools. The cholera epidemic does not amount to much *per se*, but the injury which it has thus been helped to do in a commercial point of view is immense, immeasurable, and it will be many a long year before Paris recovers from the effects of it.

I had intended to give you a sketch of my friend, Dr. Noel Gueneau de Mussy, but circumstances constrain me to postpone it, and I will, therefore, bring this letter to a conclusion, with best wishes, and au revoir.

I am very truly yours, etc.,
EDWARD WARREN (Bey), M.D., LL.D.

SOUTH CARROLLTON, KY., Nov., 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: On the night of March 10th, 1884, I was called to see Mrs R., whom I found suffering with severe pain in the region of the uterus, accompanied by considerable hæmorrhage. Upon inquiry, I found that she had not menstruated for two months, had morning sickness, and tender and reddened nipples. I at once made a digital examination, but found no fœtus either in the vagina or projecting from the os uteri. By pressing my finger up into the cervix I could only feel some tough clots of blood. Believing it to be a case of abortion, and that there was no hope of preventing it, I administered ergot to hasten expulsion of fœtus and placenta. From time to time she would pass clots, which I examined, but could find no fœtus.

The hæmorrhage continued more or less until the night of the 11th, when I introduced a tampon and continued the ergot. Twenty-four hours afterwards I removed the tampon, together with some clots, and what I considered a degenerated fœtus; this degenerated mass being, in my opinion, an example of the true mole so ably described by Leishman.

After delivery of this mass there was a continual slow wasting of blood, which caused me to put her on ergot and gallic acid in alternate doses (having dissolved the acid in water by the addition of potassa citras—grain for grain usually being sufficient to dissolve the acid). Next day (13th) I found my patient still losing blood, growing pale and weak; again applied the tampon to check the hæmorrhage. Removed it on 14th, and still finding hæmorrhage, I used a pair of placenta forceps for the purpose of removing any portion of the placenta that might remain; failing in this, I put aside my forceps and introduced my whole hand into the vagina, passing my index finger into the cavity of the uterus, found it empty, there being nothing there to cause the continued hæmorrhage that I could discover. Withdrawing my hand, I then introduced a Jenninson's uterine douche attached to a Davidson syringe, and injected the cavity with *hot water*, continuing the injection until the water came away clear of blood.

Thinking that she was certainly relieved by this, I continued her on the ergot and gallic acid. Did not hear from her until the 18th, when her husband informed me that she was still having hæmorrhage, and that it was gradually increasing in quantity. I went immediately to see her, introduced a bivalve speculum, and found the cause of the abortion and continued hæmorrhage to be a very badly granulated os and cervix uteri; the granular erosions being as large as grains of wheat, and numerous enough to cover the whole cervix up to the internal os. Blood was constantly oozing from each one of these granular points. The os and cervix being very much dilated, and flabby, enabled me to get a good view of the parts. I applied nitrate of silver very thoroughly, which stopped the hæmorrhage for a few hours, but on my visit next day (19th) I found the bleeding had set up again. Using a speculum, I then cauterized the granular erosions with chromic acid, the remedy so highly prized and recommended by the late J. Marion Sims. This was more effectual than the nitrate of silver, there being no more hæmorrhage until the 25th, when a second application of the chromic acid put an end to the whole trouble. Patient recovered without further trouble, on the use of iron and bitter tonic. It is now more than two months since the last application of the chromic acid, and there has been no return of the hæmorrhage or other bad symptoms.

Thinking this might be of interest, on account of the peculiar degeneration of the embryo and the obscure cause of hæmorrhage after the abortion, I have written it up for publication in your JOURNAL.

Truly yours, W. E. IRVIN.

MOUNT MEIGS, ALA., November 20, 1884.

To the Editor of Gaillard's Medical Journal:

"Peccavi."

"They gazed, and still the wonder grew
That one small head should hold all it knew."

DEAR DOCTOR: The report of a few cases illustrative of blunders and peccadilloes committed in a practice of eight years may prove of interest to a large number of recent graduates. It was ever a sacred and cherished opinion that it was a duty incumbent upon me not only to quickly render in a diagnosis, but often to cheerfully indulge in prognostications, even when on that score I was not consulted ; not to do so was a tacit admission that one was not a graduate of Solomon's institution. Remorse and chagrin were the necessary attending penalties attached for errors of this nature consummated, which none but the experienced can fully appreciate.

The first case to which I shall refer was unique, and proved highly interesting and instructive. I was summoned in haste to see a negress, who acted in the capacity of nurse for Mrs. T. On examination, I found the patient immovable, and was told that the position of the body had not changed since she was discovered. She was lying on her back, lower limbs extended, and an effort to alter the position met with marked resistance. There was complete suspension of consciousness, volition and the sensory functions. Auscultation failed to detect pulsation and respiration. Diagnosis, opium narcosis ; prognosis very unfavorable ; death imminent. Learning of the (hasty) diagnosis, Mrs. T. informed me that upon frequenting the nursery she had found her two-ounce vial of laudanum reduced to a teaspoonful, and that she was satisfied the nurse had imbibed its contents. I could not but congratulate myself on the correctness of the diagnosis ; 1-60 gr. sulph. atropia was administered hypodermically, carb. ammonia, gr. xx., in sweetened water, was poured into the mouth, but deglutition was impossible ; 10 grains were given hypodermically, not producing any indication of vitality. Alcoholic stimulants per rectum proved negative ; temperature, 97½°. Half an hour after, I repeated the atropia and ammonia, giving the former in dose of 1-96 gr. hypodermically, and the latter with whiskey per enema. Gentle flagellation and pinching of the skin was practised without evincing any manifestation of sensation or consciousness. The attendants thought life to be extinct ; I was not remote from their persuasion. I concluded to practise intra-venous injection of sulph. ether ; I did so, and five minutes after the patient altered slowly the position of the body. Ten minutes from the time of its insertion the girl opened her eyes and moved her arms ; two or three minutes afterward she began to cry and laugh alternately. My exclamation, "Fooled !" Hysteria, prognosis favorable. It was evidently a case of catalepsy, but intimately allied to hysterical coma. The duration of the paroxysm was about two hours, suddenly developed ; recollected nothing that transpired during the attack, but stated that on dusting the mantel-piece she knocked off the laudanum, placed it back and knew nothing more. She was unmarried, aged 19 years ; for some time was a sufferer from leucorrhœa ; six months prior to this attack suffered from a similar one, only it was of shorter duration.

Case No. 2.—Was asked to visit Mr. J. C., for whom I had prescribed three months before for syphilis. He complained of cephalalgia, and a sensation of general fatigue; had one chill. 9 A.M.: Pulse, 90; temperature, 100°. Two days later: pulse, 100; temperature, 103°. 9 P.M.: A sibilant râle heard over the chest on auscultation; cough moderate; face flushed, and bowels loose. Two days later, being about the eighth day of illness, tympanitis, accompanied by gurgling in the right iliac fossa; tongue papillary and coated with a dark-brown fur, its tip and margin, half its extent, red. Diagnosis, enteric fever. Four weeks later pulse became normal, and the tongue assumed its natural hue; the appetite returned and sleep was natural and refreshing. There was an absence of ataxic symptoms, together with evening exacerbations of temperature, the temperature remaining at 99½°. It was convenient to daily visit the patient, which six weeks later proved exceedingly irksome to him. Buboes in the inguinal region were developed, and the face, shoulders and chest were the seat of the syphilitic eruption. On the appearance of the eruption and non-suppurating buboes, mercurial ointment was freely rubbed in the axilla and over seat of buboes, alternately, twice a day, for a week, with decided improvement. He was then placed upon tonic doses of mercury with signal benefit. The following is the prescription: ℞. Bichlor. hydrarg, gr. i., tr. ferri mur. ℥ ss.; aquæ dest., syr. zingib. aa ad q. s. ft. ℥ iv. Mx. Sig. One teaspoonful three times a day, before meals, in water. The idea of a typhoid fever which had run its course, engrafted upon a syphilitic cachexia, should have been intuitively conceived; nevertheless, he remained in bed six weeks after all symptoms of enteric fever had subsided, and I had the melancholy pleasure of seeing my patient weighing more, and looking as if he had no acquaintance with ataxic symptoms incident to an exhaustive disease.

Case No. 3.—Was requested by the lady of the house at which I boarded to examine the foot of her son. Found he had an ingrowing toenail, which necessitated his walking on crutches. The soft tissues had extended over the nail, producing a painful ulcer. Advised removal of the entire nail. Half an hour after partaking of a hearty meal, he was brought under the influence of chloroform in the presence of a brother and relative; he rapidly became anæsthetized, and as soon as that condition existed it was discontinued, and I began to operate. One blade of a pair of sharp-pointed scissors was carried beneath the nail up to its roots, and was equally divided, one-half of which was extracted per avulsion. Hearing a moan, observed his countenance; it was pallid, and respiration was suspended. Leaped on the bed, grasped his ankles, and made the head the most dependent portion of the body; his relative was directed to compress chest, and keep his arms in motion.

The brother exhibited marked fortitude, and rendered invaluable assistance by removing the accumulations of saliva from mouth. It seemed an age before he respired. As soon as respiration was established, he vomited his undigested meal. Whiskey was given, and one hour after reaction the remainder of the nail was removed without an anæsthetic. The dressing for toe consisted of carbolized lint secured by roller bandages. Thoughtless and imprudent M.D.'s have been known to give chloroform and ether in dental chairs for the withdrawal of teeth, and I have seen thereby unpleasant effects. Once I was importuned to give chloroform for the extraction of a tooth; I objected, but was overruled. Patient behaved badly under its influence. Pulse before inhaling 120, and after inhalation grew faster and weaker, accompanied by irregular respiration. It was at once abandoned; he sent for a talented young physician, who reluctantly yielded to his demands. He informed me he used equal parts of ether and chloroform with the most unpleasant effects. The breathing soon became stertorous, and it was only by unremitting efforts at artificial respiration that he recovered. Moral.—Experience teaches that it is unsafe to administer an anæsthetic one half hour after meals, and under no circumstances in a dental chair. I fain would pause, not for any lack of omissions and commissions, but have already drawn this desultory letter to proportions undesirable.

Yours, very respectfully,

W. D. Taylor, M.D.

Asbury Park, N. J., Dec. 4, 1884.

To the Editor of Gaillard's Medical Journal :

Dear Doctor : In the October number of the Journal, in an editorial article, "The Ocean Beach Disgrace," we feel that we have been misrepresented, placed in a false position before our brethren in the profession, and so injured. Your remarks are based upon the information you were in possession of, but as that information was incomplete, and only a *part* of the truth, you have been led, we believe unintentionally, to place us in a false light; and we have felt that when you had learned the real truth you would not only be willing, but glad, to make reparation through the columns of the Journal. Now, the first point you make as casting a suspicion upon our intelligence as physicians is, that we gave it as our opinion "that the patient could not have been saved." The truth is (as will appear by the testimony) that we gave it as our opinion that the woman could probably not have been saved *after the doctor arrived*, which was some four or five hours after a full box of Rough on Rats had been taken. We not only argued this on general principles, from the known action of the poison, but from the fact that the woman died so soon after the doctor's arrival. Even though no proper antidote was administered, death occurred so soon after the doctor's arrival that it was but natural to assume that when he arrived sufficient damage had already been done to prevent recovery. We did give it as our opinion that if a proper antidote had been administered *soon* after the poison had been taken the woman could probably have been saved.

Secondly, you criticise us for testifying, as you claim, that the stomach was in a terribly inflamed condition while the other viscera were normal. This was not our testimony. This statement, as before, is only a part of the truth. We did say that, so far as we examined, the remaining viscera seemed to be normal; but the evidences of what we were seeking, viz., whether a poison had been ingested or not, were so abundant in the stomach that we did not deem it necessary to proceed further in our examination. Therefore, it seems to us that your reasons for unfavorably commenting upon our conduct in the case are groundless.

Yours respectfully,

SAML. JOHNSON,
G. F. WILBUR.

[As Newman testified that Kinmonth had pronounced the woman out of danger, and as Kinmonth, who attended her, discharged the case, saying to the patient that if she felt worse she was to send for him, it cannot, after such lay and medical testimony, be claimed that the patient was incurable when first seen. When the stomach was disorganized from arsenious acid, it is an impossibility that any of the viscera could have been normal; general abnormality, if not visible, was certainly demonstrable. The above letter is published with pleasure. Its authors may feel thoroughly assured that there was no desire to injure them. Their testimony, however, was justly open to the criticism of the medical Press. They cannot fail to appreciate this very patent fact. —ED.]

CLOUTIERVILLE, LA., November, 1884.

To the Editor of Gaillard's Medical Journal:

DEAR DOCTOR: You will feel like doubting the following statements, yet I assure you every word is true, adding to the reality of a recent assertion of yours that "the greatest men are not free from folly of the most stupendous character." Recently, a wealthy, well-informed and intelligent cotton planter in the State of Arkansas, late one afternoon at home, got something in one of his eyes, producing considerable irritation.

He made demand about the premises for some linseed, the old time-honored remedy, to put into his eye to remove the obstruction, but no linseed could be obtained, and the cook, a colored woman, suggested that if he would put a *louse* into his eye it would answer a better purpose than linseed, as she could testify from personal experience. Search for a louse was instantly instituted among the darkies, old and young, on the place, and, strange to tell, out of quite a number, "nary bugger" could be found. Finally, at a cabin on the place, a mile off, a "bugger" was found. It was brought and put into the affected eye.

On the following morning this "Arkansaw traveler" was missing.

"Ah, then there was hurrying to and fro" among the ladies of that household, as each made search for the errant stranger, and frequent were the coverings, lest in his wanderings he should take refuge in their hirsute coverings. But the planter himself was more than satisfied, as his eye was completely relieved.

J. F. Griffin, M.D.

REVIEWS.

The Story of My Life. By J. Marion Sims, M.D., LL.D. Edited by his son, H. Marion Sims, M.D. New York: D. Appleton & Co., 1 and 3 Bond street. 1884.

The reviewer of an autobiography becomes, to a certain extent, the biographer of the author. His work it is to take up the life record as he finds it, as it is truthfully presented to him, to weigh it in all its bearings and developments, to analyze it, and to present it to the Public. Acting thus, as an actual biographer, he must remember the great difference that should be manifest in his work as discharged immediately after the recent burial of the dead, or as it is attempted at a period materially later. Immediately after death, the old Roman law (springing from proper feeling and authorized by custom) *de mortuis nil nisi bonum* must and ever will be both a law and a guide, and eulogy usurps the functions of criticism. In the hush of the death chamber, or when standing by the open grave, there are felt universally the diviner attributes of human nature, the pity, the benevolence, the sympathy which compel every one, not only to say nothing but what is good of the dead, but, like the French, to make the occasion one for the tenderest eulogy. Comment immediately after death must be eulogy.

When, however, months have past, there have passed also the sacredness and mystery of death, and the dead, so to speak, rises to life again; not near and palpable as before, but still within the absolute perspective of accurate criticism.

Such criticism is, by general consent, even then impossible with those allied by blood, or by a bond even nearer, while with many friendship is claimed to be incompetent for the role of judgment. Experience and human records show, however, that friendship, like love, is not blind, but that the best judgments offered in regard to the dead are from friends: friends to whom such a labor becomes one of actual love.

It is with such thoughts that the reviewer approaches this autobiography of a sincere and lamented friend.

It is safe to say that every one who takes up this book will read it from cover to cover; not only on account of the many interesting subjects, and the interesting manner in which they are treated; not only on account of the smoothness and purity of the narrative, and the many incidents so fascinatingly presented, but because it brings back so vividly the author to the reader.

Here are, as of old, the familiar boyishness and frankness; the playfulness and sincerity; the enthusiasm and simplicity; the fidelity and energy; the truthfulness and candor; the great, true heart; the forgiving, affectionate nature; the firmness of purpose; the accuracy of elaboration; the manliness and straightforwardness; the alternating liveliness and despondency; the emotional, transparent, truthful man. Sims, as he was in life, stands before the reader. But the work, for itself and its author, deserves more careful notice.

It is a volume of 470 small octavo pages. About 314 are made up of "The Story of my Life." The "Introduction," written by Judge Mackey, of Washington, D. C., consists of about 28 pages. From the 342d to the 368th page the work is made up of letters written by the author when in Europe in 1861. About 52 pages (of appendix) consist of letters written to his "sweetheart" and wife. About 20 pages are given to the valuable address and biographical sketch of Dr. W. O. Baldwin, of Montgomery, Ala., as published in GAILLARD'S MEDICAL JOURNAL for January, 1884; 20 pages more of appendix consist of the biography of Dr. Sims, by Dr. J. M. Toner, of Washington, D. C., as published in GAILLARD'S MEDICAL JOURNAL of February, 1884 (page 127); and the memorial Proceedings of the Medical Society of the District of Columbia, published in the same journal in the same month (page 179). This life by Dr. Toner is very valuable in many respects; it is minute, accurate, and gives, by title, all of the published papers of Dr. Sims, with the names of the periodicals in which they appeared. The memorial Proceedings indicated are also very valuable and instructive, the addresess being excellent and interesting. These papers were all published, originally and only, in GAILLARD'S MEDICAL JOURNAL, from manuscript carefully corrected, but for some cause no credit whatever is given to the JOURNAL in this volume. In fact, these papers and the excellent address of Dr. W. O. Baldwin furnish, with Dr. Sims' letters to his wife and father, all that the reader can rely upon for a proper appreciation of the author's "life," from the period at which his own "story" terminates (1863) to the final ceremonies and ceremonial addresses after his death.

It should be mentioned that the impressive memorial proceedings of the Medical Society of South Carolina are also included in the appendix.

The introduction by Judge Mackey is interesting and instructive, though the style is inflated and turgid. He is not as logically accurate as one would have expected from a judge, and as is claimed by lawyers for themselves. He says: "Of all the professions, the medical is the slowest to welcome the reformer," and on the very next page states as follows: "It is due to the medical Profession *to state the fact, which history attests*, that no class of men render more exalted and unreserved tribute to the reformer." A slip of that kind, before Bar or Jury, would place a judge in a very unenviable position. When it is made before the Public, his position is no better. What he really thinks the record does not indicate.

He mentions an interesting fact in regard to the old theory of Sims relative to *trismus nascentium*, and that is, that Dr. J. G. Hartigan, of Washington, and the author of a valuable paper on that subject, in a report of 229 cases, verified, by post-mortem examinations, found the theory of Sims to be correct.

In speaking of Sims' resignation of his position at the Woman's Hospital, in 1874, because the Board of Managers would not permit more than 15 to be present at an operation, he terms this decision of the female members of that Board as "making 15 the limit of female endurance, or the high-water mark of woman's modesty;" transfixing thus handsomely that memorable Board with the keen lance of just ridicule and sharp sarcasm. He asks very justly "by what occult process of reasoning did the Board arrive at the conclusion that a woman anæsthetized would be more shocked by the presence of 30 observers than if only 15 were gazing upon her?" Fifteen is, it seems, as Mackey says, "the high-water mark of woman's modesty." It is the only answer. Sims laid down the old rule, which should be imperishable, that "the physician is the autocrat of the sick chamber." All honor him for that decision.

An interesting fact, not known generally, is that during the war, when there was great suffering and want in his native county, Lancaster, S. C., when, "after the march of General W. Tecumseh Sherman, the flames of defenceless cities and villages, and the smoking ashes of homesteads and school-houses were the monuments of his march, Sims forwarded 5,000 francs from Paris for the relief of his countrymen. He subsequently added to the benefaction a sum with which a spacious mansion and 60 acres of land were purchased as the "Home for the Helpless Indigent." The building now shelters some 40 needy inmates. It is called "The J. Marion Sims Asylum for the Poor." Sims paid a welcome visit to it and to his *alma mater*, the S. C. College, a few years before his death. There are several facts of interest mentioned in this introduction, which is in truth a supplement of the "Story of my Life:" The reply of Sims when informed by Hartigan of the truth of Sims' theory in regard to *trismus nascentium*, "You are the very man for whom I have been wishing these thirty years;". Emmet's testimony in regard to Sims' "Clinical Notes on Uterine Surgery," "Its publication was the turning point of modern gynæcology, or, more strictly speaking, of American gynæcology, of which he may justly be termed 'father;'" the organization of the celebrated Anglo-American Ambulance Corps by Sims, and its splendid work at Sedan: his receiving the degree of LL.D. from his medical *alma mater*, Jefferson Medical College, in 1881 (20 years after it was earned); his securing the title deeds to his future home at Washington, D. C., but nine days before his death; his chivalric defence of Dr. Crawford W. Long, of Georgia, of being the discoverer of anæsthesia by the inhalation of sulphuric ether, as early as March, 1842, and his removing Long from a condition of penury to one of entire ease and comfort; the proof that J. Marion Sims was in deed and in truth the founder and organizer of the Woman's Hospital, the first institution ever dedicated exclusively to the cure of the diseases of women—these and many other points of interest give to this introduction an especial welcome and very positive value.

A curious fact may be added, which is also mentioned by Judge Mackey—Sims' relation to the No. 13. He was born on the 13th; he graduated on the 13th; he left his South Carolina home for Alabama on the 13th; he made New York his home on the 13th; he died on the 13th.

There is also described the deep religious convictions of Dr. Sims, seen so conspicuously in his letters to his father and to his wife, and in his special appeals to them to join him in seeking a better life, in the open membership of a recognized church.

It seems that the idea of writing his life was not original with Sims—he was too modest—it was suggested by the Hon. Henry W. Hilliard. He intended to give only his public, and not his personal life. His purpose was changed "by a very dear young friend, whom I had known from early girlhood." He says of his life, "Mine has been a real romance, full of incident, anxiety, hope and care; some disappointments and many successes, with much sickness and sorrow; but it has also been a life full of joy, contentment and real happiness." His great love for his wife was one taking the mastery of his being, from early childhood to the very moment of his death. It is apparent in every act of his life and in everything that he wrote. His tributes to her are eloquent, touching, ceaseless; and form, indeed, one of the most prominent characteristics of his being. His love was early and deep; constant and ardent; endless and unquenchable. The most constant topic of his "story," the very fountain of his life. His love for his father and mother, for children, his friends, his countrymen, his State, his home, his profession, his specialty, for the great work of his life is also prominent and sincere. The man, in his inmost and most endearing characteristics, is always before the reader of his "story." The eye often becomes dimmed, the page cloudy, and not unfrequently the tear falls unchecked and unrestrainable over the recital and memoirs of the lost and dearly-beloved friend.

The "story" is first taken up with the author's antecedents; the life and death of his mother; his school experiences, so laughable, frank and amusing; his first love; his first lie, described with such characteristic frankness; his college life; his first experience with wine; his graduation, and his choice of a profession. Then comes the recital of the man's experiences; his first case, comic and characteristic beyond description; the loss of his first and second case; his disgust; his taking down his sign; his leaving his native land and his "locating" in Alabama. His early professional struggles; his success; his early operations; the discovery of the principle of the Sims' speculum; how it first led him to operate for vesico-vaginal fistula; his discovery of the metallic suture; his triumphs then after he had had dozens of failures; his gigantic self-will and endurance, and confidence manifested in his forthcoming success; his success; and then his fearful illness; his pilgrimages in search of health, and recovery; his patience, his courage, his fortitude. The healing effects of New York air and climate. His emigration there. The early struggles with poverty and difficulties and false friends. His gradual improvement in health, and his persistent and gradual and dearly-earned success in New York. The story of the founding of the hospital; its erection and occupation—all of this is told with a simplicity and power found rarely, but always characteristic of Sims. Then comes the story of his triumphs at home and abroad. His considerate and temperate indication of the American physician who had attempted to filch his discoveries, his operations, his instruments. Magnanimity and scorn in almost every sentence. His magnificent receptions in Europe; his operations; his triumphs; his honors, are then brought forward with modesty, with simplicity, and yet with great pride and conspicuous gratitude. Then his letters, with most interesting facts and incidents connected with the great men and women met abroad, form the closing chapters of "the Story."

And so the writer brings his labor of love to a close. It is, perhaps, the last tribute to an old and dearly-valued friend, and it may be that the welcomeness of the labor has induced a length of description not germane to the office of a reviewer. But could it have been otherwise? Just as it is, the review of the "Story" is closed; as it is it goes to the Press and the Public—all inadequate and unworthy, but offered as perhaps the last offering which sincere friendship can offer to a dead and beloved friend.

A few comments may not be uninteresting.

That the child is the father of the man most have heard and many believe. In this "story" there is not one fact to support the claim. Sims was a commonplace child, boy and young man. He said so and it was so. There was not one germ manifest of the forces that were to make one of the most remarkable of men. He felt nothing and there was nothing to indicate coming distinction—a distinction all the more grateful and wonderful. So far from there having been any evidences or premonitions of coming distinction, it is a most remarkable fact that, after he had gained an excellent practice in Alabama, he determined to give it up and become a ready-made-clothes dealer at Vicksburg, Mississippi, and only abandoned his purpose, because the man who was to have furnished the capital failed to do so!!!

And now that the testimony and the records are complete as to Dr. Sims, in his several relations as a physician, a surgeon, an officer, an author and a speaker, it may properly be asked what is the public judgment, the verdict of history in regard to him? Was he a great man?

Like Ephraim McDowell, he industrially and triumphantly elaborated a great conception. With Sims, the operations were original in execution, as they were in conception, and in the results he was never equalled, certainly never surpassed. With McDowell, the grand operation was suggested by his great master, Bell, of Edinburgh, but the pupil had the nerve to dare and do what his great teacher had not the courage even to attempt. McDowell's operation was original (with him) in execution, he had never heard that it was done, he certainly had never seen it done. Unlike Sims, however, he has been surpassed, both in the method of his operation and in the results. He has added centuries to the aggregate life of woman. He was one of the grand benefactors of his race. Yet Sims conceived more originally, executed more triumphantly, though he has not by his work been the means of saving as many lives, nor could he ever be. For this accident as to the character of the operation, while he was the superior in surgical execution, is he the inferior of McDowell? Taking the salvation of life as the test, he did less; but taking, as a measure, the relief of suffering, he did far more. If then he relieved more than did McDowell; if his operations were original, while McDowell elaborated an operation suggested to him; if while McDowell was equalled and surpassed in his own operation, while Sims was seldom equalled, certainly never surpassed, what shall be the verdict as between these two benefactors of the race? Were either McDowell or Sims great men?

Edward Jenner was overwhelmed by a single conception. He triumphantly elaborated it. His labor, and original labor, has saved millions of human beings in every civilized country. Small-pox is for years unseen in countries wherein it annually destroyed thousands. Jenner has saved more lives and prevented more suffering than have any that lived before, or, so far, have lived after him. As a benefactor of his race, he far surpassed McDowell and Sims. But was Jenner a great man? Apart from their specific conceptions and especial or specific acts, were Jenner or McDowell or Sims great men? This is, of course, subjecting Sims to a fearful ordeal, to the crucial test of history; but, like all for whom greatness is ever claimed, he must be submitted to the great assize of comparison. What is to be the verdict? Velpeau was great, as author, surgeon and teacher. John Hunter was great. So was Harvey. So was Faraday. So Trousseau and Blumenbach and Haller. Rush was great. These men, apart from any special department of study or work, were great. They had great brains, great thoughts, they achieved great results. Was Jenner, apart from his special work, great? was McDowell? was Sims?

Criticism, even of old and devoted friends, must be cautious and conservative; must be just, as well as generous. It owes this obligation to the dead who have achieved admitted greatness, who have been elevated to their sublime altitude by forces rigidly just, and who owe their appreciation on the part of past and contemporaneous history to their unquestioned elevation by a judgment which is indisputable. It would be wrong, therefore, to them to place beside them any who are unworthy of this high honor, and it would be useless to attempt to place in such a position those whom the judgment of history might assign to a lower plane. History has elevated Jenner and McDowell to this high position; it terms them great; what position has it for Sims?

If greatness consisted only in broad, original and profound thought; in unsurpassed action; in the wide scope of premises, with infallibility of deduction, there are many, though pronounced great, who would be stripped of their laurels and despoiled of their crowns. But if in the balances that are to test the mental powers there are also placed the moral forces, integrity, truth, fidelity, humility, magnanimity, generosity, nobility, then does the assize here become both easy and just. So tested, who that knew Sims could hesitate? All would joyfully and triumphantly exclaim: He was indeed a great man; a good man; a noble man.

Note.—There are some errors, typographical and otherwise, which should be corrected in time for the next edition, for another edition will soon be demanded of this fascinating volume.

On page 105, line 10, solidarity is used for solidity.

On page 137, line 6, Holbrook should be written for Hurlburt. Holbrook was one of the greatest teachers of anatomy ever known.

On page 208 the name Boling, of Montgomery, is misspelled Bowling.

On page 244, line 24, for Meltor, write Mettauer, one of the original thinkers and prominent surgeons of Virginia.

On page 308 Christison is incorrectly spelled Chrisleston.

On page 312 Jobard de Lamballe is spelled Joubard, and many times repeated.

On page 410, line 1, for red Southerners, read real.

On page 419, line 5, for Mr. Duffie, read McDuffie; the Governor and great orator of South Carolina. There are several minor errors, but these mentioned certainly deserve prompt attention.

THE LOCK-JAW OF INFANTS (*Trismus Nascentium*); or Nine-day Fits, Crying Spasms, etc. Its History, Cause, Prevention and Cure. By J. F. HARTIGAN, M.D., Washington, D. C. New York: Bermingham & Co., 28 Union Square. Pp. 123. Two illustrations.

This little volume is very interesting. It is a complete vindication, by the logic of *post-mortem* examinations, of the views first advocated by Dr. J. Marion Sims, in 1846, that this disease is due to over-lapping of the bones of the skull, and the forcing in of the occipital bone; to be successfully treated by the lateral decubitus. It is very instructive and valuable.

MEDICAL RHYMES. A collection of Rhymes of Ye Ancient Times, and Rhymes of the Modern Day, Rhymes Grave and Rhymes Mirthful, Rhymes Anatomical, Therapeutical and Surgical, all Sorts of Rhymes to Interest, Amuse and Edify all Sorts of Followers of Esculapius. By HUGO ERICHSEN, M.D. Introduction by Professor WILLIS P. KING, M.D. Illustrated. J. H. Chambers & Co., St. Louis, Chicago and Atlanta.

The author has given a very fair compilation of the poetry supposed to chiefly amuse and interest doctors. He has presented a great many old friends, much that is good, bad, and indifferent. but he has made a valuable, amusing and desirable volume. The illustrations are very good.

A COMPOUND OF ORGANIC AND MEDICAL CHEMISTRY. By HENRY LEFFMAN, M.D. Small 8vo, pp. 124. P. Blakiston, Son & Co. $1.

This is a little volume that every doctor will be glad to own. It is an excellent guide as to the chemistry most interesting and important to the practitioner: the chemistry of the reactions: tests of all kinds being given.

A PRACTICAL TREATISE ON DISEASE IN CHILDREN. By EUSTACE SMITH, M.D. 8vo, pp. 144. Price $5.00. New York: Wm. Wood & Co., 56 and 58 La Fayette Place. 1884.

With this work, that of Farr, Barthez, Rilliet, Day, Meiggs and Pepper, the physician will have the best the library affords. The author is a great teacher; he has had abundant opportunities and has used them well. He is too well known to make a criticism of his work necessary.

SURGICAL DELUSIONS AND FOLLIES. A Revision of the Address on Surgery, for 1884, before the Medical Society of the State of Pennsylvania. By JOHN

B. ROBERTS, M.D. 16mo, pp. 56. P. Blakiston, Son & Co. Paper, 50 cents.

This little volume is made up of articles that have appeared from the author in medical journals. While, of course, every one would take issue with him in regard to some of his positions, it must be admitted that he attacks many errors boldly and successfully, and furnishes many valuable lessons for future thought and action.

THE EAR, ITS ANATOMY, PHYSIOLOGY AND DISEASES. By CHAS. H. BURNETT, A.M., M.D. 107 illustrations. Second edition. Revised and corrected. 8vo, pp. 585. Philadelphia: Henry C. Lea's Sons & Co.

As the first edition of this work was duly noticed, it is only necessary to note its deserved success and the appearance of a new and improved edition.

THE MEDICAL RECORD VISITING LIST FOR 1885. Two styles: The Annual List, with dates; The Perpetual List, without dates—both containing all the valuable features of previous publications of this sort, and embracing many new and useful ideas never before introduced into physicians' diaries. Prices.—30 patients a week, with dates, handsome red or black seal-skin binding, wallet styles, silk paper and calf lining, $1.25; ditto, without dates, $1.25; for 60 patients a week, with dates, same style, $1.50; ditto, without dates, $1.50.

PHYSICIAN'S VISITING LIST, 1885. Thirty-fourth Year of its Publication. Containing Calendar, List of Poisons and Antidotes, Dose Tables rewritten in accordance with the Sixth Revision of the U. S. Pharmacopœia, Marshall Hall's Ready Method in Asphyxia, Lists of New Remedies, Sylvester's Method for Producing Artificial Respiration, with illustrations; Diagram for Diagnosing Diseases of Heart, Lungs, etc. Lindsay & Blakiston.

This old companion yearly increases in value and attractiveness. Price $1.00.

ILLUSTRATED POEMS OF OLIVER WENDELL HOLMES. Boston: Houghton, Mifflin & Co.

This is a very beautiful book, containing the best known of Dr. Oliver Wendell Holmes's poems, illustrated by the best artists. The pictures to "Grandmother's Story of Bunker Hill Battle," made by Mr. Pyle and engraved by some artist whose name ought to be given, is admirable of its kind. Such delightful verses deserve exactly such a setting. It may be worthy of mention that Dr. Holmes, in giving his sanction to this particular edition, made the selection of the poems, taking those he liked best. The etching of Dr. Oliver Wendell Holmes on the first page is a capital one, and adds much to the value of the volume.

ELEMENTS OF PHARMACY, MATERIA-MEDICA AND THERAPEUTICS. By WILLIAM

WHITLA, M.D. (Q. U. I.), Physician to the Belfast Royal Hospital, Consulting Physician to the Ulster Hospital for Diseases of Women and Children, etc. Second edition. H. C. Lea's Son & Co.

One very familiar peculiarity of the schoolboy's mental organization is to use negatives for establishing any special claim. It is said of one schoolboy that in his composition he wrote as follows: "Pins are very useful; they have saved the lives of a very great many men, women and children; in fact, whole families." "How so," asked the puzzled pedagogue. "Why," said the boy, "by not swallowing them." So it may be said of this book, it will render more valuable the time of every owner of it. If it be asked, How so? the answer is easy: by not reading it.

LECTURES ON THE PRINCIPLES OF SURGERY DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE. By WM. H. VANBUREN, M.D., LL.D. Edited by Lewis A. Stimson, M.D. New York: D. Appleton & Co., 1, 3 and 5 Bond street. 1884. Pp. 588.

This is a posthumous work. The editor has made its production a labor of love. The friends and admirers will be glad to have a copy of it as a memento of the great surgeon and great teacher. The editor is wrong in giving to Buck the credit of the pulley and weight extension in fracture treatment. It was, according to Dr. VanBuren, due to Dr. Daniell. The book is well issued.

THE ELEMENTS OF PATHOLOGY. By EDWARD RINDFLEISCH, M.D. Translated from the first German edition by WM. H. MERCUR, M.D. Revised by JAMES TYSON, M.D. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1884. Price $2.

This volume is eminently practical; didactic from cover to cover. No waste of words; no irrelevancy. It is an excellent study; brief a spossible, accurate, reliable. It is a volume of about 200 pages.

LEGISLATION ON INSANITY. INTELLIGENT PHILANTHROPY. A Collection of all the Lunacy Laws of the States and Territories of the United States. To the year 1883, inclusive. Also the Laws of England on Insanity, Legislation in Canada on Private Houses, and Important Portions of the Lunacy Laws of Germany, France, etc. By GEORGE L. HARRISON, LL.D. Philadelphia. 1884.

The author of this book is an expert and a philanthropist. He offers his volume of 1,100 pages gratuitously. His purpose is to get good laws passed and foolish and obsolete laws abrogated. That he may succeed in his great work every one sincerely wishes.

A MANUAL OF DERMATOLOGY. By A. R. ROBINSON, M.B., L.R.C.P. & S. Edin. New York: Bermingham & Co.

This book is, as is only claimed for it, a manual, but it is one of the best before the Profession. The author has a well-deserved reputation both at home and in Europe, and his guidance is entirely safe and efficient.

A MANUAL OF DISEASES OF THE THROAT AND NOSE, INCLUDING THE PHARYNX, LARYNX, TRACHEA, ŒSOPHAGUS, NOSE AND NASO-PHARYNX. By MORELL MACKENZIE, M.D., London. Vol. II. New York: William Wood & Co. 1884.

This is one of the best numbers of Wood's library for 1885. It is the August number. The same work by another publisher has been elsewhere noticed.

DISEASES OF THE THROAT AND NOSE. Vol. II. Diseases of the Œsophagus, Nose, and Naso-Pharynx. With Index of Authors and Formulæ for Topical Remedies. Illustrated. By MORELL MACKENZIE, M.D., London, Consulting Physician to the Hospital for Diseases of the Throat, Lecturer on Diseases of the Throat at the London Hospital Medical College, and Corresponding Member of the Imperial Royal Society of Physicians of Vienna. Philadelphia. 1884: P. Blakiston, Son & Co. 8vo, pp. viii, 550.

When the first volume of this work appeared, it was so fully noticed that the reader does not need any information as to the purpose and plan of the author. Of course, all know that he has no superior in this specialty and that his volumes are classic in style, elaboration and reputation. The caption of this notice gives all further information needed as to its scope and character. The work is beautifully published.

NOTE.—Titles of books, etc., received, with names of authors and publishers, will appear in next number.—ED.

CONFLAGRATION DANGERS IN LARGE CITIES—At a recent meeting of the American Society of Civil Engineers, in this city, a paper by E. B. Dorsey, C.E., on "The Comparative Liability to and Danger from Conflagrations in New York and London" was read by the author. The following were among the reasons given for the comparatively smaller number of fires in London as compared with American cities, and especially with New York. The comparatively damp climate of London, which prevents sparks or weak flames from igniting wood; the much higher temperature of the winter months, and consequently the smaller number of domestic fires. Statistics were given showing that lower temperature always largely increased the number of fires. The population of New York south of Fortieth street is more dense than in an equal area of London, New York averaging 208 persons per acre, and London 191½ per acre for the same area. New York averages for the same area 16⅓ persons per dwelling. Another comparison of about 750 acres of the most densely populated portions of London and New York gives for London 249 persons per acre, and for New York 352 persons. The size of the houses in London is in general considerably less than in New York. Many London houses do not exceed 15 feet wide, 25 feet deep, and 22 feet high, and a very large number do not exceed 16 feet wide, 30 feet deep, and 40 feet high. All the London houses have fireproof roofs, and in all cases there is proportionately much less wood and more brick or stone than in New York buildings. There are also fewer and smaller windows than in New York. The walls are short.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, MEASURES, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	“	1-6th	“
1 decigramme	“	1½	grains.
1 gramme	“	15	“
1 decagramme	“	150	“
1 hectogramme	“	1,465	“
1 kilogramme	“	14,720	“
1 myriagramme	“	145,824	“

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	“	1-100th	“
1 decimetre	“	1-10th	“
1 metre	“	39 37-100th	inches.
1 decametre	“	10	metres.
1 hectometre	“	100	“
1 kilometre	“	1,000	“
1 myriametre	“	10,000	“

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains water.
1 centilitre	“	150	“ “
1 decilitre	“	1,500	“ “
1 litre	“	(1 qt.) 15,000	“ “
1 decalitre	“	150,000	“ “
1 hectolitre	“	1,150,000	“ “

NOTE.—1 grain troy is equal to 1 and 8-100ths grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	79-100ths pint, or 6,067 22-100ths minims.
1 oz. “ “	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. “ “	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. “ “		455 69-100ths “
1 fl. gallon “ “		231 cubic inches.
1 fl. pint “ “		28 87-100 “

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.; divide by 5, equal 72 deg.; add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus . 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

PHENOL is used in Germany in swine measles. It is injected hypodermically, and for several weeks afterwards the flesh of animals so injected tastes so strongly of the acid as to be unedible. Hager recommends (*Pharm. Centralhalle*) that pigs should not be killed until from four to five weeks after their recovery. It is noticed that cud-chewing animals will not touch food which has the slightest trace of phenol about it.

GERANIUM IN PRURITUS VULVÆ.—Dr. C. J. Smith (*Medical Advocate*) claims good results from the following:

℞. Ext. geranii mac. fluid	gtts. xx.
Ext. Belladonnæ fluid	gtts. iij.
Zinc. sulph.	gr. j.
Vaseline	℥ j

M. S. For external application.

AYER'S SARSAPARILLA consists, according to the *Druggist*, of—

℞. Fl. ex. of sarsaparilla	3 ounces.
Fl. ex. of stillingia	3 “
Fl. ex. of yellow dock	2 “
Fl. ex. of May apple	2 “
Sugar	1 “
Potassium iodide	90 grains.
Iron iodide	10 “

Mix.

It must be obvious that this mixture would constitute a good alterative.

COMBINATION OF MORPHINE WITH ACIDS IN OPIUM.—D. B. Dott *Pharmaceu-*

tical Journal and Transactions states that an aqueous extract of opium contains sulphuric acid sufficient, and meconic acid insufficient, to combine with the whole of the morphine present; but it contains also inorganic and organic bases with which the sulphuric acid will unite in preference to the morphine, the remainder of this acid being not sufficient to combine with all the morphine. This alkaloid, therefore, exists in opium both as sulphate and meconate, possibly as acid meconate.

Roosevelt Hospital Formulæ.—Pills.

Compound Arsenic Pill.

℞.	Arsenious acid	gr. 1-20.
	Reduced iron	gr. j.
	Sulph. quinine	grs. ij.

M. Make 1 pill.

Aloe and Iron.

℞.	Dried sulph. iron	gr. j.
	Socot. aloes	grs. iss.
	Arom. powd., s. q.	

M. Make 1 pill.

R., S., and I. Pill.

℞.	Powd. rhubarb	gr. j.
	Bicarb. soda	gr. j.
	Ipecac	gr. ⅛.

M. Make 1 pill.

Iodoform.

℞.	Iodoform	1 gr.

Make 1 pill.

Compound Diuretic.

℞.	Corrosive sublim	gr. 1-32.
	Powd. squills	gr. j.
	Powd. digitalis	gr. j.

M. Make 1 pill.

Hyoscyamus and Oxide Zinc. Sweat Pills.

℞.	Ext. hyoscyamus	3 grs.
	Oxide zinc	2 grs.
	Honey, s. q.	

M. Make 1 pill.

Quinine (1 grain).

℞.	Sulph. quinine	gr. j.
	Honey, s. q.	

M. Make 1 pill.

Quinine (3 grains).

℞.	Sulph. quinine	grs. iij.
	Honey, s. q.	

M. Make 1 pill.

Bland's.

℞.	Sulph. iron	grs. iiss.
	Carb. potass	grs. iiss.
	Pulv. tragacanth, s. q.	

M. Make 1 pill.

Laxative.

℞.	Ext. nux vom	gr. ¼.
	Ext. belladon	gr. 1-6.
	Comp. ex. colocynth	grs. ij.
	Powd. Socot. aloes	gr. j.

M. Make 1 pill.

Codeine.

℞.	Codeine	gr. ½.
	Glycerole of starch, s. q.	

M. Make 1 pill.

CAPSULES.

Quinine	10 grs.
Quinine	5 grs.
Salicylic	10 grs.
Salicylic	5 grs.

—*Communicated to the Druggists' Circular.*

Walker's Vinegar Bitters, according to the *Pharmaceutical Record*, has the following composition:

℞.	Powdered golden seal	℥ j.
	Powdered Cape aloes	℥ ss.
	Water	℥ xvj.

Mix. Bottle, tie cork down tightly. Ready for use in ten days.

Pruritus ani and the distressing itching of urticaria and mosquito bites can be much alleviated by local applications of menthol. It may be used by rubbing the menthol pencil lightly over the surface, or by dissolving a small amount in alcohol and bathing the part.

Phosphate of Codeia.—Dr. Fronmüller employs the phosphate of codeia for hypodermic injection. He says that it possesses the advantage over the muriate and sulphate of being much more soluble. The substance crystallizes in slender, four-sided columns, is white in colour and of a bitterish taste, and is soluble in four parts of water. Its action is very like that of morphia, but it is milder, and the symptoms of poisoning (such as great weakness, intense headache, bilious vomiting, etc.) are much less often encountered. It seldom causes local irritation when subcutaneously injected. The dose should be at least double that of morphia. The phosphate of codeia is especially recommended in the case of women and children.—*Memorabilien.*

Additional Fields for Cocoaine Muriate.—The range of the applicability of cocoaine muriate has been enlarged with remarkable rapidity since the discovery of its anæsthetic action on the conjunctiva. The latest surfaces to which it has been successfully applied are the nasal mucous membrane and the mucous lining of the bronchi. Dr. F. H. Bosworth reports recently in the *Medical Record* that he has cauterized the mucous membrane of the nose, for the relief of hypertrophy, twenty-seven times, with comparative freedom from pain. The turgescence which follows this operation was also permanently reduced by bathing the cauterized surface with the cocoaine. The application is, furthermore, valuable in reducing the venous turgescence which coexists with the hypertrophy, and by means of its use this can be so reduced as to permit a determination by ocular inspection of the actual amount of hyperplasia. Dr. Bosworth reports, also, successful results following the topical application of the cocoaine solution by means of an atomizer in cases of acute coryza. For a "cold in the head" and a stopped up nose, he thinks this treatment excellent. In operations for nasal polypus, it permits of the use of the snare with the minimum of pain, and also reduces materially the amount of hæmorrhage following the removal of the growth. In hay fever, that opprobrium of medicine, he thinks there is a brilliant future for cocoaine. Although he has not had an opportunity of employing it in a typical case of this disease, he is led from his observations on two cases of autumnal catarrh to hope for more excellent results in the more distressing affection than have heretofore been achieved. He closes his paper with the following conclusions, which are justified by his experience: 1. Cocoaine will prove valuable in the relief of hay fever. 2. It relieves the most distressing symptoms of acute coryza, and curtails the duration of the attack. 3. It controls the painful and distressing reaction which results from the use of caustics or instruments in the nasal cavity. 4. It empties the venous sinuses of the nasal mucous membrane, and thereby affords an opportunity for a thorough ocular inspection of the cavities. 5. It eliminates from minor operations in the nasal cavities the troublesome hæmorrhage which so often occurs, and it suggests itself as useful in the control of epistaxis from whatever cause.—*Med. Age.*

Simple Disinfecting Lamp.—A ready means of employing sulphurous acid gas for disinfection is to produce the gas by the process of burning bisulphide of carbon in a lamp, after the manner of a good-sized oil or spirit lamp. Take an earthenware or metal lamp, fit it up with the cotton wick in the usual way, and then charge it with a mixture of equal parts of common benzoline and of carbon bisulphide. The lamp so formed is lighted in the usual way, and gives off when burning free quantities of sulphurous acid. The lamp can be moved about from one part of a room to another, into cupboards and closets, and into wardrobes and drawers and boxes, with so much facility that it becomes a most useful means for disinfection. The lamp can be further employed with advantage for the disinfection of clothes and for bedding, by placing the clothes very loosely on the iron bars of a bedstead, and by setting a few of the lighted lamps on the floor beneath the bedstead, a foot or two away from the clothes themselves. In a very little time the whole of the clothes are saturated with the sulphurous acid vapor, if the room containing the clothes be closed. The object of adding the benzoline is to give steadiness to the liquid during the process of burning. A common benzoline lamp is quite sufficient for the purpose, and if the flame from it throws off also some free carbon, as smoke, it does good rather than harm, except in respect to dust, which is easily brushed away.—*Asclepiad, October*, 1884.

Some Therapeutical Delusions.—The *Medical Record*, noticing a communication in which a valued correspondent urges the necessity of a more critical and careful analysis of therapeutical experience, observes, that while nihilism in therapeutics is greatly to be deprecated, a more critical study of the action of remedies and of alleged therapeutical results is earnestly to be desired. The editor adds: "We have carefully examined the 'delusions' set forth by our correspondent, and find that, in the main, they agree with the results of the more conservative clinicians and of pharmacological experiments. They are as follows: It is a delusion that veratrum viride or aconite will abort croupous pneumonia, or essentially modify its course; that chlorate of potash is of any use in catarrhal angina; that nitrate of potash is an antipyretic, anti-rheumatic, or (to any appreciable extent) a diuretic; that lime-water will dissolve a diphtheritic or croupous membrane; that nitrate of silver is of any value in epilepsy; that the excessive and continuous use of iron induces plethora, with dizziness, flushings and palpitations; that iron should be given in phthisis; that mercury is anti-plastic and anti-phlogistic; that arsenic has any value in diabetes; that iodide of potassium promotes absorption of serous exudations and of non-specific connective tissue in hyperplasia; that sulphur, and sulphur in baths, are of any value in rheumatism; that charcoal, when moist in the stomach and intestines, has any absorptive power, or is of any use in flatulence by virtue of that power; that dilute acids are 'cooling,' *i.e.*, lower temperature and lessen heart action in the non-febrile; that colchicum is beneficial in rheumatism; that drinking sulphuric acid prevents chronic lead poisoning; that iodoform given internally is anything but a poor substitute for iodide of potassium; that croton chloral has a specific effect on the fifth cranial nerve; that tannic acid (or the plants containing it) is of any value given internally for hæmorrhages, except, perhaps, those of the stomach and bowels, or that it is of any value as a gargle in chronic pharyngitis, or that it is an astringent to mucous surfaces or blood-vessels; that turpentine is a stimulant to the heart and nervous system; that musk is a nerve or heart stimulant (it belongs, with turpentine, to nerve depressants); that ox-gall is of the slightest therapeutical utility; that hydrocyanic acid in ordinary medicinal doses is either a local or general sedative (it is rather an irritant); that quinine in either large or small doses is a stomachic, except in convalescence from malarial attacks; that hydriodic acid has any specific effects other than those possessed by the iodides."

Idunium.—"Idunium" is the name proposed by Professor Websky for the metal just discovered by him as one of the components of the native vanadate of lead. The mineral is rather a scarce one of a yellow color, and contains several other metals, of which zinc, iron and arsenic are among the most prominent. Iduniun resembles vanadine in several respects, both physically and chemically, while the only oxide hitherto examined forms stable salts with alkaline bases, and thus would appear to possess distinctly acid properties. It will probably be known by and by as "idunic acid," and as its general characteristics and reactions correspond to those of vanadic acid, its formula will probably be Id_2O_5

MISCELLANEOUS.

Insurance Risks in Inebriety.—The well-known fact that life insurance companies find excessive mortality in their risks in certain sections of the South and Southwest has been the subject of some interest lately. Several of the Hartford companies who have examined the facts have found that this mortality came directly from inebriety, and was due to the liberal interpretation of the agents, who did not realize that any risk of inebriety was perilous unless the insured had suffered from delirium tremens many times. No use of alcohol, either moderate or occasionally immoderate, was thought to be dangerous. The agents and examiners had no clear conception of the danger of alcohol, and treated the companies' views as extreme. The result was that special examiners were sent from the home office to cancel all the risks of ten thousand and upward where the insured were found using alcohol to any excess. Finally, some of the companies withdrew their agents altogether, and do not solicit business in certain sections. In one case twenty-eight deaths were all traced to the excessive use of alcohol, and were all paid, simply because it was cheaper to settle than to contest. At a recent meeting of the Tennessee State Board of Health, the secretary reported that a Hartford life insurance company had ordered its agents not to issue any politics in six counties of the State, owing to the excessive mortality of the policy-holders. The question came up of the cause of this mortality; as no reports indicated any special disease in this section, a letter was addressed to the secretary of the company to know the reason. The answer was that from the amount of insured lives in these counties the average loss to the company should be about sixty-eight thousand dollars, when in fact it was over one hundred and fifty thousand dollars—more than double the loss of any other section, and that without any special cause as to epidemic disease. The real explanation was the want of care in taking risks, and the number of inebriates who had been taken as proper cases. It is the same old blunder of supposing inebriety to be a mere vice at the control of the victim, and in no way periling life unless used to great extremes.—*Jour. of Inebriety.*

Professor DaCosta has recently exhibited a case at his clinic in which an attack of facial erysipelas was cut short in a remarkable manner by a hypodermic injection of a third of a grain of pilocarpine muriate. The patient received a blow in the face on Wednesday night, and the next morning the upper part of his face was erysipelatous, the inflammation extending rapidly up on the brow and over to the other eye. On Thursday afternoon he received the injection, and after profuse sweating the tumidity of the eyelids subsided, and by the next morning he could open both of his eyes. The disease did not return and he became at once convalescent, but took iron for a few days before going home again.

Extractum Pancreatis in Typhoid Fever.—In the *American Practitioner* Dr. Frank C. Wilson, Professor of Physiology in the Hospital College of Medicine, Louisville, Ky., gives his experience of the use of the above remedy: In typhoid fever, more than in any other disease, do the indications point clearly and emphatically to the most careful dietetic management of the case, from the beginning to the end of it. The debilitating effect of the continued fever, protracted through a period of four or six weeks and sometimes even longer, must be combated in every possible way, and yet without adding to the danger of loading the intestines with undigested food, of itself a source of evil and discomfort. Only that which is absorbed and assimilated is of real service to the system. In the enfeebled condition of the digestive organs very little of the food taken into the stomach can or will be digested, but passes down through the intestinal track in a constantly fermenting state, thus adding to the discomfort by the increasing flatus, and over the inflamed and ulcerated Peyer's patches, producing possible hæmorrhage, or even death, by perforation. The great danger from this source has led some eminent physicians to advocate even total abstinence from food, confining the patient strictly to water, even for three or four weeks. If, however, food can be so thoroughly digested, before being taken into the stomach, that all will be readily absorbed and assimilated, leaving no residue, the indications will be fulfilled. Milk is the article of diet usually relied upon for feeding typhoid fever patients, but even when the digestive organs are in a healthy condition it coagulates into a mass of curd as soon as it reaches the stomach. This hard mass has then to be digested and disintegrated before being absorbed. If this fails to be accomplished by reason of the small quantity or poor quality of the digestive fluids, the irritating mass passes down through the intestines, a constant source of annoyance and danger. This may all be obviated by digesting the milk with the pancreatic extract, as prepared by Fairchild Bros. & Foster, of New York. Milk so treated cannot be coagulated by even the strongest acids, its casein being transformed into peptone and in condition to be at once absorbed and assimilated. There is noticeable a slight bitterness to which the patient soon becomes accustomed, so that it is taken readily and produces no discomfort. Even this bitter taste may be avoided by stopping the process of digestion before it is entirely completed. It has been found by experiment that the objectionable taste is only developed when the casein is entirely peptonized. It is scarcely ever necessary to carry the artificial digestion quite so far, and when stopped at any point before completion the taste is perfectly natural. If immediately placed on ice, it can be kept as long as undigested milk. The ferment of the pancreatic extract is held in a latent condition, and when taken into the intestinal canal may still further aid in the completion of the digestive process. To avoid the possibility of the patient becoming tired of the same article of diet, day after day, its form of administration may be varied in a number of ways. As the casein is peptonized, and cannot be coagulated by even the stronger acids, the milk so prepared can be utilized in making milk punch. This can be flavored with lemon juice or any other acid desired. Thickened with gelatin, sweetened and flavored, it forms a delicious milk jelly suitable for convalescent patients and grateful to the taste. During the past two years I have met with many instances in which the use of the pancreatic extract has yielded the most gratifying results. Not alone in typhoid fever is it useful, but in all cases where the digestion is enfeebled, or where it is interfered with by the presence of ulcerated or inflamed surfaces, the process of peptonizing the food will be found of service. In rectal alimentation its importance is manifest, the food so prepared being readily absorbed and appropriated without inconvenience or irritation. I have sustained patients with gastric ulcer entirely by nutritive enemata twelve or fourteen days. In this time the ulcer will be entirely healed, so as to allow the cautious administration of peptonized milk in gradually increasing quantity, until a full meal can be taken. To Dr. Roberts, who first suggested the importance of peptonizing the food, and to the Fairchild Brothers, whose pancreatic extract enables us to so readily and thoroughly accomplish it, the profession owes an everlasting debt of gratitude, echoed by many patients whose lives have been saved by its use.—*Canada Lancet.*

POST-PARTUM AVULSION OF UTERUS.—At a meeting of the Obstetrical Society of London, on October 8th, Mr. J. Hopkins Walters reported a case: A patient aged twenty-two, in her third confinement, attended by a midwife, who, in attempting to remove the placenta, introduced her hand and tore away the whole of the uterus, with right ovary and fallopian tube, portions of the round ligaments, and the left fallopian tube. The woman was treated with opium, quinine, and antiseptic washings, and made a good recovery.

FATAL HÆMORRHAGE FOLLOWING THE USE OF THE ASPIRATOR NEEDLE.—Dr. A. Reeves Jackson reports a case, in the Chicago *Medical Journal and Examiner*, in which he aspirated a small fluctuating tumor in the right broad ligament, about one inch from the uterus. Only one and a half drams of serous fluid were withdrawn. Not feeling satisfied, he introduced the needle a second time, pointing more toward the uterus, with negative results; but on withdrawing the needle considerable hæmorrhage followed, and continued in spite of the physician until death.

CIRRHOSIS.—Prof. Da Costa teaches that in the early stages (before contraction) of interstitial hepatitis (cirrhosis), a cure may be effected, but that after contraction nobody ever recovered.(?) He has seen the disease in women who did not drink, and the worse case he ever had was in a boy four years old, in which the diagnosis was confirmed at the autopsy. Inherited syphilis is a cause of it. In the early stages the remedies are leeches, sulphate of magnesium, cream of tartar, iodide of potassium.—*Col. and Clin. Record.*

ARE THE DOCTOR'S HORSE AND BUGGY HIS TOOLS?—The laws of most States exempt the tools of a person's occupation from liability to seizure for debt. A physician in New Hampshire recently pleaded this exemption when his horse and buggy were seized to satisfy the claims of his creditor, and under it replevined the articles. The following is the decision of the Court under which the jury restored the property:

"The Court cannot say, as a matter of law, that a wagon or a harness is a tool of a physician's calling, and so exempt to all physicians; nor can they say it is not such a tool. The most that can be said, as a matter of law, is that it may be a tool of his profession if, in the particular case, it is reasonably necessary for him to use it as a tool. If it should appear that his practice was confined to his office, or that he was a physician or surgeon in a hospital, attending to no cases outside of the institution, or that he was a surgeon on shipboard, or that he went on foot or horseback, or on the cars, to visit his patients, a wagon and harness would not be exempt under our statute, because they would be of no use to him as tools in his practice. They might be of use to him in other respects, as in going to church, or carrying his children to school, or in visiting friends, or as a means of recreation and pleasure; but these uses are manifestly not within the legitimate scope of the technical duty of a physician. Not coming within the strict definition of the term tools, and not being reasonably necessary as tools for him in his practice of his profession, they would not be tools within the meaning of the statute, and so would not be exempt as such. But if it should be found that the physician claiming the exemption could not practice his profession with reasonable success without a team with which to visit his patients; that he was located in a country town, for example, where it was necessary for him to ride a large part of the time in order to accomplish anything professionally, a wagon and harness might properly be found to be reasonably necessary for him as tools of his occupation. But the finding would be one of fact, so far as the reasonableness of the use is concerned; and it could not be said that these articles are exempt to every physician, or to physicians generally, but only to the debtor in the particular case. If there is any doubt whether an article claimed to be exempt from attachment is a tool under the statute, the question should be submitted to the jury whether its use as a tool by the debtor in his business is reasonably necessary. If it is, it is exempt; otherwise, it is not exempt."

TREATMENT OF HYPERTROPHIED TONSILS BY CAUSTIC APPLICATIONS.—This is a practice that recommends itself to timid people, and, in view of the frequent recurrence of the enlargement after partial excision, as well as the positive dangers possible through the topographical anatomy, should be more frequently practiced by the physician. Prof. Chisolm in an article on the above subject (*Indiana Medical Journal*) says that the local application of destructive agents alone promises no satisfactory reduction of hypertrophied tonsils. He regards caustics as usually applied (to the surface of the tonsils) as objectionable, because they are violent in their action, difficult to limit to the tonsil proper, and by excoriating the mucous surface with which they come in contact usually make a very painful sore throat. He advises a better and more successful method of applying these destructive agents based upon the anatomy of the tonsils. The exposed surfaces of the tonsils are more abundantly supplied with sensitive nerve filaments than the interior surfaces of the follicles, and the latter being, to a certain extent, deficient in common sensation, destructive agents can be applied to their interior surfaces without annoying the throat proper or causing much pain. Dr. Chisolm prefers for local use in the treatment of enlarged tonsils the chloride of zinc, it being the most available and the least annoying to the patient. He uses it in the following manner: A wire, the size of a fine knitting needle, is roughened for a half inch from one end, so that it may hold a fibre of absorbent cotton twisted upon it. This is dipped into a saturated solution of chloride of zinc, and thrust to the bottom of the follicle and kept there several seconds. When withdrawn, the whitened orifice marks the cauterization. By renewing the cotton for each follicle, several may be thoroughly cauterized at the same sitting without causing any annoying irritation to the throat. A very few applications will cause the gland to shrink.

ANOTHER HERO.—Dr. Samuel Rabbeth, senior resident medical officer of the Royal Free Hospital, of London, England, performed tracheotomy on a child, aged four, suffering from diphtheric croup, October 10th. Air did not enter in a satisfactory manner, and Dr. Rabbeth sucked the tube to clear the trachea. Four days later the doctor began to suffer from sore throat, which passed into diphtheria, and died on October 20th.

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MEDICAL NEWS.

NEW YORK ACADEMY OF MEDICINE.—At a very large meeting of this Body, December 18th, the committee to whom was referred the charges made against Dr. Fordyce Barker made its report. The charges were that he had falsely represented himself to be a graduate of the Ecole de Médecine of Paris, and was guilty of perjury. The report showed that he is a graduate, and exonerated him fully and completely. The report was unanimously received and accepted. There was a strong disposition manifested to expel those who had preferred these charges, but at the request of Dr. Barker the matter was dropped. A most unfortunate affair. A great triumph for Dr. Barker.

THE INDEX for Volume XXXIX. will be furnished in the January number.

Address to the King of Denmark.—The members of the International Medical Congress, recently held in Copenhagen, living in England, Ireland and Scotland, have presented an address to the King of Denmark, expressing their regret for his loss in the burning of the Christiansborg Palace when he entertained the members of the Congress.

The Noble Army of Martyrs.— Of one hundred and twenty-nine doctors who, as agents of the White Cross Society, devoted themselves to the care of cholera patients during the recent epidemic in Naples, twenty fell victims to the disease. Is it not a little singular that, while the attention which the king showed to the sufferers was heralded throughout the world as an example of rare devotion and heroism, no mention was made of the score of noble men who offered up their lives on the altar of philanthropy?

"Harper's Weekly" publishes an excellent portrait of Dr. Christopher Columbus Graham, the Louisville Centenarian. He is probably the oldest physician in the world.

Dr. W. M. Fuqua, formerly of Hopkinsville, Ky., is now a resident of Memphis, he having accepted the Professorship of Anatomy in the Hospital Medical College of that city.

Prof. Virchow was recently elected to the German Parliament by a majority of 7,956 over his opponent, Dr. Stoecker.

Dr. Battey recently performed his thirty-fourth operation without a fatal case.

The *Therapeutic Gazette*, published by Mr. George S. Davis, of Detroit, will hereafter be edited by Prof. H. C. Wood and R. Meade Smith. It is announced that the editorial office will be in Philadelphia. The *Gazette* has already achieved marked success in its field, and under its present management its usefulness to both pharmacology and therapeutics will be undoubtedly advanced, and the journal kept at a high standard.

American Gynæcological Society.—The membership of this eminent organization is to be increased to one hundred, instead of sixty, as formerly. The candidate must send a paper on an appropriate subject to the secretary one month before the annual meeting, and his application be endorsed by two fellows of the Society.

The *Annals of Surgery* appears again in December. It has been thoroughly reorganized, and promises to be even more interesting and valuable than in the past. The prospectus has been issued by the publishers, Messrs. Chambers & Co., of St. Louis, and the list of collaborators in the United States and England represents the spirit and progress of modern surgery. Dr. L. S. Pilcher, of New York, one of the former editors, and Dr. C. B. Keetly, of London, will edit the journal, which is to appear simultaneously in Great Britain and America. Drs. T. G. Richardson, of New Orleons, and W. M. Mastin, of New Orleans, are among the representatives of Southern surgery in the list of collaborators. The subscription price is $5 per annum.

Committees to procure legislation establishing State Boards of Examiners have been appointed by the Medical Jurisprudence Society and County Medical Society of Pennsylvania. Henry Hazlehurst, Esq., is chairman of the committee of the first-named society; Dr. Charles K. Mills of that of the second society. Conferences are now being held between these committees and the Committee of Medical Education appointed by the Medical Society of the State of Pennsylvania.

SANITARY work in Naples, it is reported, is to be carried on vigorously, the Italian Government having appropriated nearly $20,000,000 for the purpose.

PURE MILK.—With regard to securing pure, healthful milk, the following opinion by Prof. Feser, of Munich, has been quoted by N. Gerber: "It is desirable to prevent the sale of milk which is below a certain standard as good milk, even if it be simply the unadulterated product of single animals reduced through insufficient and faulty feeding. Ordinances passed for the prevention of adulteration would be powerless if it be lawful that milk may be adulterated before its production in the body of the animal by injudicious treatment and feeding."

THE METER.—The Perpetual Secretary of the Academy of Sciences, Paris, has announced that the International Committee of Weights and Measures standing for the high contracting parties to the Convention for the Meter signed at Paris on May 20, 1875, having at last received the adhesion of Great Britain and the further accession of Roumania and Servia, now represents an aggregate population of 421,440,396.

NEW YORK CANCER HOSPITAL.—By the will of the late Mrs. General Cullum, one of the founders of this hospital, the Halleck estate in San Francisco, estimated to be worth $100,000, is left to this institution. At the time of its organization Mrs. Cullum subscribed $50,000. It is this hospital to which Mr. John Jacob Astor gave $200,000 a few months ago. The buildings are in process of erection at Eighth Avenue and One Hundred and Fifth Street, opposite Central Park, and will be completed in about a year's time.

A STATUE of Sir Erasmus Wilson, in bronze, says the *Medical Times and Gazette*, is to be erected outside the Margate Infirmary. It will represent him clad in his robes of office as president of the Royal College of Surgeons.

M. PASTEUR, says the *Lancet*, is reported to be about to proceed to Rio Janeiro in order to study the yellow fever.

DISINFECTION.—At the requisition of the Prefect of Police, Paris, MM. Dujardin, Beaumetz, Pasteur and Roux performed experiments with the view of ascertaining what would be the best gas for disinfecting rooms in which patients suffering from contagious diseases had sojourned. These gentlemen have come to the conclusion that sulphurous acid gas would be the most efficacious for such a purpose, but instead of simply burning sulphur, as is usually done, they recommend the burning of bisulphide of carbon as being the least expensive and the least injurious to furniture or articles of metal in the room.

AT a meeting of the New York Health Board held November 25th Dr. Cyrus Edson, chief of the Second Sanitary Division, reported that he had seized over fifteen hundred pails of preserved fruits, on the ground that they were unfit for human food. He claimed that these fruits, being acid, were liable to attack the metal of the pails, which had loose covers, freely admitting air, and thus become exposed to dangerous contamination. A sample pail was examined by Dr. Waller, analyst to the Board, Inspector Martin, and himself, and the tin plate was found to contain lead. The action of Dr. Edson was indorsed by the Board.

DR. JOHN CHARLES FAGET, an eminent creole physician of New Orleans, is dead. His parents were émigres from San Domingo, and he was born in New Orleans in 1809. He was educated for medicine in Paris, and held high rank in his profession. He was the author of several standard works on yellow fever and kindred diseases, and after the epidemic of 1867 was created a Chevalier of the Legion of Honor by Napoleon III. for his services in behalf of his needy countrymen.

DR. CHARLES CARROLL GRAY.—Dr. Charles Carroll Gray, of the United States Army, died at Geneva, N. Y., on November 22. He was born at Chester, Orange County, N. Y., on March 28, 1838. He was educated at Hobart College, and was graduated from that institution.

A HOME for UNFORTUNATE WOMEN.—The fourteenth annual report of the Association for Befriending Children and Young Girls, House of the Holy Family, Nos. 136 and 138 Second avenue, for the year ending October 1, 1884, has just been issued. During that time 300 persons were received, and the whole number cared for during the year was 496. Of this number 221 were dismissed, leaving at present 273 inmates. The outdoor poor received in the year 1,095 meals and 2,210 garments. The receipts were $22,160.60, and all but $433.31 of this sum was expended. The officers of the institution are: President, Mrs. Mary C. D. Starr; vice-president, Mrs. George V. Necker; treasurer, Mrs. T. Addis Emmet; assistant treasurer, Miss C. M. Harris, and secretary, Miss Emily Binsse.

TO KEEP DOCTORS DRY.—Canvas covering can be made as impervious to moisture as leather by steeping it in a decoction of one pound of oak bark with fourteen pounds of boiling water, this quantity being sufficient for eight yards of stuff. The cloth from which the coats, etc., are made must be soaked twenty four hours, when it is taken out, passed through running water, and hung up to dry.

A DARK DAY.—Of twenty-four candidates for the primary examinations in the Royal College of Surgeons, England, on October 16th, sixteen were rejected.

SERIOUS MORTALITY AMONG DOCTORS FROM CHOLERA.—Twenty medical practitioners have died in Naples out of one hundred and thirty-nine engaged in attending cholera patients, under the White Cross Society, during the recent epidemic.

PROF. HUXLEY is in poor health. He will probably leave England for a few months. He may spend the time in Venice.

THE medical profession throughout the United States is to be congratulated upon the successful operation for cataract recently performed upon the eyes of the President of the American Medical Association, Prof. Henry Campbell. Dr. J. J. Chisolm, of Baltimore, operated upon the distinguished gentleman, who is at present perfectly restored and actively engaged in his professional occupations.

INSANE WITNESSES.—The United States Supreme Court has recently decided that "a lunatic or person affected with insanity is admissible as a witness if he has sufficient understanding to apprehend the obligation of an oath, and to be capable of giving a correct account of the matters which he has seen or heard with reference to the question at issue; and whether he has that understanding is a question to be determined by the Court, upon examination of the party himself, and any competent witnesses who can speak to the nature and extent of his insanity."

SHAKESPEARE'S PHYSICIAN.—In the churchyard at Fredericksburg, Va. (*Medical Record*), is a tombstone on which may be seen these words: "Here lies the body of Edward Heldon, Practitioner in Physics and Chirurgery. Born in Bedfordshire, England, in the year of our Lord 1542. Was contemporary with, and one of the pall-bearers of, William Shakespeare, of the Avon. After a brief illness his spirit ascended in the year of our Lord 1618, aged seventy-six."

BELLEVUE HOSPITAL MEDICAL COLLEGE.—Dr. Paul Grawitz, assistant to Prof. Virchow, has just been appointed Professor of Pathological Anatomy in Bellevue Hospital Medical College, and Director of the Carnegie Laboratories. Dr. Grawitz was in this country during the past summer.

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EDITORIALS.

THE BRILLIANT CORPS OF CONTRIBUTORS FOR THE TWENTIETH YEAR OF THIS JOURNAL.—The twentieth year of this JOURNAL will commence with the January number. There are several hundred of the present subscribers who have received every number of the JOURNAL since the date of its first issue, January, 1866. These, and all other subscribers, will testify that never at any time has there appeared in the pages of the JOURNAL a single one of the very numerous and exceedingly flattering testimonials that have been sent to the editor; nor has there ever appeared editorially a single line in commendation of the JOURNAL; while in so many of the very best medical periodicals the pages are stained by testimonials indelicately published, and by the foolish claims made by their publishers. The time has, however, come when the editor of this JOURNAL must, at least, call attention to the labors of others in its behalf, though, of course, silent in regard to his own work.

It will be a great pleasure, indeed, to all of the friends of the JOURNAL to learn that, in the next year, it will have the most brilliant corps of contributors that any journal has ever enjoyed. Many of the most distinguished writers and teachers have very kindly promised to be contributors. Among these may be mentioned the names of those known wherever medicine is known, and admired wherever known; and others who, already prominent, are, as yet, young in years and in reputation. The names are given without reference to the letters received and from memory only—Drs. Austin Flint, Fordyce Barker, T. G. Thomas, L. A. Sayre, A. Loomis, A. Jacobi, F. N. Otis, C. R. Agnew, E. Cutter, John Wyeth, W. Goodell, J. Solis Cohen, Donald Maclean, J. J. Chisolm, H. P. C. Wilson, Hunter McGuire, A. M. Fauntleroy, W. H. Geddings, C. H. Mastin, H. McF. Gaston, W. H. Doughty, Joseph W. Thompson, W. A. Byrd, J. G. Kiernan,

A. B. Cook, A. Reeves Jackson, H. O. Marcy, J. J. Caldwell, W. H. Taylor, R. W. Griswold, etc.

The Department of Original Abstracts will still be in charge of Dr. J. G. Kiernan, of Chicago, who has done such able work on the JOURNAL. Dr. H. McS. Gamble has charge of the French Exchanges, and will continue his exceedingly practical, instructive and chaste Translations. The Foreign Correspondence will be chiefly from Paris, and from the pen of Dr. Edward Warren (Bey), whose graphic letters have been so much admired and valued. The News Department will be accurate and full, while the Review and Editorial Departments will, it is hoped, at least be carefully and reputably conducted. At no period in its history will the JOURNAL have been as valuable to its supporters.

The editor wishes that he may be permitted to enjoy the kind co-operation and influence of the subscribers. He tenders to the Profession his sincere thanks for the confidence and unbroken support which it has so generously extended for nearly twenty years. He is too old an editor to indulge in facile and extravagant promises, but he will at least promise to maintain the JOURNAL always, as heretofore, in a thoroughly independent course, absolutely untrammeled and uninfluenced, and wholly and enduringly devoted to the interests of the medical Profession.

The JOURNAL is expensively published, and requires, at all times and in all seasons, "a force" which, if not described in works on Natural Philosophy, is none the less familiar and absolute.

The editor is doing his best for the subscribers; it is respectfully asked that they give him *prompt* and generous support.

AN IMPORTANT DECISION OF THE SUPREME COURT—IGNORANT PRACTITIONERS GUILTY OF MANSLAUGHTER WHEN THEIR ACTS PRODUCE DEATH—A BLOW TO QUACKS AND QUACKERY.—The Supreme Court for the Commonwealth of Massachusetts has given an opinion of interest to the Public in the criminal case of Franklin Pierce, of Worcester, overruling the defendant's exceptions. Pierce, an irregular practitioner, was indicted and convicted in the Superior Criminal Court for Worcester County in May last for manslaughter in causing the death of Mrs. Mary A. Bemis, of West Boylston, by packing her in cloths saturated with kerosene oil for some three days, with her consent.

The opinion of the Court was delivered by Judge Holmes. The opinion says: "The defendant has been found guilty of manslaughter on evidence that he publicly practised as a physician, and, being called to attend a sick woman, caused her, with her consent, to be kept in flannels saturated with kerosene for three days, more or less, by reason of which she died. There was evidence that he had made similar applications with favorable results in other cases, but that in one the effect had been to blister and burn the flesh as in the present case."

The Court instructed the jury that it was not necessary to show an evil intent; that if by gross and reckless negligence he caused the death, he is guilty of culpable homicide; that the question is whether the kerosene, if it was the cause of the death, either in its original application, renewal or continuance, was applied as the result of foolhardy presumption or gross negligence on the part of the defendant, and that the defendant was to be tried by no other or higher standard of skill or learning than that which he necessarily assumed in treating her; that he was able to do so without gross recklessness or foolhardy presumption in attempting it. In other words, that the defendant's duty was not enhanced by any express or implied contract, but that he was bound at his peril to do no grossly reckless act, when he intermeddled with the person of another, in the absence of any emergency or other exceptional circumstances.

The defendant relies on the case of the Commonwealth vs. Thomson, 6 Mass., 134, 1809, from which his fifth request is quoted. His argument is based on another quotation from the same opinion, which recites: "To constitute manslaughter the killing must have been a consequence of some unlawful act. Now there is no law which prohibits any man from prescribing for a sick person with his consent, if he honestly intends to cure him by his prescription." This language is ambiguous, and we must begin by disposing of a doubt to which it might give rise. If it means that the killing must be the consequence of an act which is unlawful for independent reasons, apart from its likelihood to kill, it is wrong. Such may once have been the law, but for a long time it has been just as fully, and, we may add, much more willingly recognized, that a man may commit murder or manslaughter by doing otherwise lawful acts, recklessly, as that he may be doing acts unlawfully for independent reasons, from which death actually ensues.

The question raised by the exceptions are whether an actual good intent and the expectations of good results are an absolute justification of acts, however foolhardy, when judged by the external standard, and whether the defendant's ignorance of the tendencies of kerosene, administered as it was, will excuse the administration of it.

If the principal which has been established both for murder and manslaughter is adhered to, the defendant's intention to produce the opposite result from that which came to pass leaves him in the same position with regard to the present charge that he would have been in if he had had no intention at all in the matter. The principle must be adhered to where the assumption to act as a physician was uncalled for by any sudden emergency (and no exceptional circumstances are shown), that we cannot recognize a privilege to do acts manifestly endangering human life on the ground of good intention alone. One cannot escape on the ground that he has less than the common experience. Common experience is necessary to the man of ordinary prudence, and when a man assumes to act as the defendant did, he must have it (common experience) at his peril. When the defendant applied kerosene to the person of the deceased, in a way which the jury have found to have been reckless, or, in other words, seriously and unreasonably endangering life according to common experience, he did an act which his patient could not justify by her consent, and which, therefore, was an assault notwithstanding that consent. The decision of the lower Court is sustained and the defendant held for manslaughter. This case establishes a new precedent and principle in criminal law which will limit the practice of irregular medical practitioners.

Pure Water.—The people of this city are fortunate in having a supply of wholesome water. The use of water that is contaminated by sewage causes disease. Contaminated water also spreads diseases that have been caused by other agencies. The progress of an epidemic of cholera in a city depends in great measure upon the quality of the water used by residents. If the supply is taken from shallow wells or cisterns, the plague is almost inevitably communicated from the sick to those who are in good health. Again, if no epidemic brought from some other region is prevailing, the water taken from wells or from rivers into which sewage has found its way may cause local epidemics of typhoid fever, diphtheria, or other so-called filth diseases. In view of the fact that cholera may cross the Atlantic next spring, those cities or villages whose water supply is contaminated or exposed to contamination should at once begin the work of purification. The investigations made by the New York Board of Health last July revealed the danger that attends the use of water drawn from wells of all kinds on this island. It was shown by chemical analysis that not only the water of ordinary shallow wells but also that drawn from the deeper-driven wells, and even from the artesian wells, was unfit to be used for drinking or in cooking. The examination clearly proved that it is unsafe in this city to drink any water except that which is brought in the Croton aqueduct.

But while the Croton is wholesome, the source of supply should be carefully guarded to prevent contamination hereafter. Some weeks ago the Board of Health inspected the Croton watershed. There are in the Croton Valley villages that are growing rapidly, in which no proper arrangements for the disposal of sewage have been made. Sewage from these villages already finds its way into the water that is brought to New York in the aqueduct, but it is not believed that its introduction has thus far done any harm, because the water is purified on its way to the city. The time is coming, however, when the city will be forced to protect itself. The Croton water must not be polluted by the refuse of these villages.

That the water of the Ohio River and the water supplied to and used by the residents of many cities and villages on its banks is poisonous has been recently shown in a paper read before the American Public Health Association by Dr. Reeves, Secretary of the Board of Health of West Virginia. Beginning at the head of the river, where the cities of Pittsburg and Allegheny lie, the stream receives the sewage and refuse of hundreds of thousands of people, and thousands of tons of corrupting matter are thrown into it every day. East Liverpool, 45 miles below Pittsburg, takes its drinking water from the river, and into the same stream discharges its sewage. Four miles westward Wellsville draws its supply from the same stream, and is cursed by typhoid at all seasons of the year.

At Martin's Ferry, opposite Wheeling, water is taken from wells, but the town is not sewered, and a great part of its refuse and surface matter is drained into these wells or into the stream. Typhoid fever of a severe type constantly prevails in that place. Refuse from the homes of ten thousand persons enters the Ohio immediately above the point where water for the city of Wheeling is taken up. An attempt was recently made to get better water by taking the supply from a covered crib in the river bottom, filled by percolation through sand, but analysis showed that this water was worse than that which was taken from the current. In 1879 there were 90 fatal cases of typhoid fever in the city. In ten years there have been 460 fatal cases of typhoid and 225 fatal cases of diphtheria. The water used by the people of Bellaire, Ohio, is taken from the river at a point only half a mile below the place where all the foulest refuse of Wheeling is dumped. The result is that typhoid fever and diphtheria prevail in Bellaire in malignant form at all seasons, and the death rate from all these diseases exceeds that from other causes combined.

These facts show how dangerous a general supply of polluted water may be even when there is no imported plague to produce disease. It is a lesson to the whole country, and every physician should not only carefully make himself master of it, but should, as a medical missionary, make it widely known to his community.

THE NINTH INTERNATIONAL MEDICAL CONGRESS.—The Committee on Organization of this Body has published a "preliminary notice," a copy of which will be found in the Proceedings of Societies of the next number.

The officers elected are representative men, and will do good work. The members of the Executive Committee are well chosen, with one exception, the chairman, Dr. J. Minis Hays, of Philadelphia, Pa. The selection of an editor was doubtless intended as a compliment to the editorial staff of this country, and the intention will be duly appreciated, but the selection made will be very unwelcome, if not offensive, to the medical journalists of America.

It is but little more than a year since Dr. Hays, as editor of the *Medical News*, arraigned the entire medical editorial corps of this country, in the most offensive, inexcusable and untruthful manner possible. All of these editors were bulletined as cowardly and venal, inasmuch as they still published advertisements of several of the most reproachless commercial Houses in this country (viz., Parke, Davis & Co., Schieffelin & Co., Warner & Co., and McKesson & Robbins) after a few chemists, selected by Dr. Hays, their names not being given, had decided that the quinine pills sold by these Houses were fraudulent in quantity and in quality.

It was asserted by Dr. Hayes that there was but one reason why these editors did not sustain him, and refuse to insert the advertisements of the Houses named; the reason was, that all such editors were bought and pecuniarily controlled by these Houses and that they were therefore afraid to advocate and sustain the truth!

The facts, as explained by this JOURNAL, were that the assertion made by Dr. Hays in regard to the fraudulency of the pills indicated was totally and demonstrably untrue; and that the only medical editor in this country who carried an advertisement of quinine pills believed and asserted by himself to be fraudulent in quantity and quality was Dr. J. Minis Hays!

It may be understood, therefore, that the medical Press of this country cannot accept, as a decent and proper representative, a member of the editorial corps who has done his very utmost to stigmatise and to stain it.

There has been another very serious blunder in the organization of the Executive Committee: the entire South, and West, and trans-Mississippi, from the headquarters of the Mississippi to the Gulf, has been ignored; Chicago, Cincinnati, St. Louis, Louisville, Detroit, Richmond, New Orleans, Charleston, Mobile, Savannah and Wilmington, are not in any manner recognized. These blunders ought to be rectified in time.

BICYCLE RIDING.—The latest opinion on the subject is contained in a paper contributed to the London *Lancet* by Dr. S. A. Strahan, of Northampton. Neither Dr. Strahan nor those who preceded him on the subject condemn bycycling altogether; but when indulged in constantly, and especially when the course traversed is rough or hilly, they agree that it leads to serious disorders. In the case of growing boys, Dr. Strahan declares that the amount of pressure upon the perinæum directly affects the prostate, the muscles of the bulb, and indeed the whole generative system. "The pelvis," he says, "is flexed upon the thighs or rolled forward. This rolling forward of the pelvis is slight in easy riding, and very marked in fast riding and hill climbing. Now, when the body and pelvis are bent forward, the ischial tuberosities are raised from the saddle, and the whole weight of the body, save what is transmitted to the pedal by the extended leg, is thrown upon the perinæum."

This results, he says, in irritation and congestion of the prostate and surrounding parts, tends to exhaust and atrophy the delicate muscles of the perinæum, and leads to early impotence. Many cases could be cited where races have become almost totally impotent from immoderate equitation, as the Tartars, and, partially so from the same cause, the Indians. Like others who have written on the subject, Dr. Strahan speaks of the "disease of the Scythians," but doesn't say what it was. All know that they were a warlike race and continually in the saddle, and can only conclude that he means this constant perinæal pressure reduced them to the wretched condition in which Hippocrates found them. Hippocrates says: "Their bodies are gross and fleshy; the joints are loose and yielding; the belly flabby; they have but little hair, and all closely resemble one another." Bicycling is said to be ten times as severe on the perinæum as riding. If Strahan is correct, the bicycle is doomed.

POLITICS AND HEALTH.—Prof. Felix Adler is a member of the Tenement House Commission, and a member of a sub-committee of that Commission, recently appointed, whose duty it is to examine overcrowded tenements in the worst districts of this city, and to suggest remedies and plans for improvement. In a public address recently delivered, he enumerated some of the evils concerning which the Commissioners have made inquiry, and in the course of his remarks declared that no Board of Health dares to do its plain duty in the pestilential districts where the laws are persistently violated, "on account of the political influences wielded by landlords." In other words, the present Board of Health of the City of New York does not dare to purify the slums, enforce the laws concerning overcrowding, the disposal of refuse, and the use of damp and filthy cellars, and protect the people from the deadly influence of these regions, because the men who own the old barracks are powerful politicians who control many votes. This is the boldly-expressed opinion of one of the most prominent and intelligent members of the Commission, who does not forget, of course, that another member is Gen. Shaler, President of the Health Board, but, who unlike his predecessor, Prof. Chandler, totally unfit for his duty, and absolutely afraid to discharge it. For ten years Prof. Charles F. Chandler was President of the Board. He did not allow any scoundrels to endanger the health of thousands of citizens. He *compelled* them to obey sanitary laws and regulations. What was the result? "I believe," said he, "it was the action I took against those persons that lost me the presidency of the Board, for these men are rich and have a strong political backing." Such is one of the results of having a corrupt and dishonest Mayor and a Board of Aldermen who are to be bought and are bought like pigs in the shambles.

NEW YORK CITY BOARD OF HEALTH.—When the present Mayor of this city pretended, a year or more ago, that he could not retain Dr. Charles F. Chandler as President of the Board of Health, because the Aldermen would not confirm the nomination, this journal then declared the whole act to be a public sham, and that it was the beginning of the end of that Board as a scientific and independent Body. The proofs of the correctness of that prediction are daily becoming stronger. When the Board of Health was impotent to remove manure dumping grounds which brought illness, and suffering, and depreciation of property, becoming not only nuisances, but a scandal, the *ladies* of the city combined, appealed to the Grand Jury, had the contractors fined, "the dump" removed, and the Board of Health officially censured. General Shaler, the President of the Board of Health, is a politician; he is controlled by politics; that is by money, bribery and intimidation. He had to be officially censured by a Grand Jury before public nuisances could be abated. Chandler is a physician. He was above debasing influences. He could not be influenced. Now that cholera threatens, Professor Felix Adler has to denounce the Board of Health.

This is a great blow to the community. It is a greater blow to the physicians here. They thought that the Board of Health was still a scientific Body, respectable and respected. It has proved itself with its present head to be utterly unworthy of confidence or respect. It is a Body, entirely like the lowest class of political tricksters in this city, given over to jobbery, corruption and venalism, and utterly below the recognition of scientific men and the better classes of the community.

THE WESTERN VIRGINIA AND EASTERN KENTUCKY DISORDER.—The fatal disorder which devastated the sparsely-settled mountainous counties of Southwestern Virginia and Southeastern Kentucky is over. The afflicted district is said to embrace a strip of country about eighty miles long by seventy miles wide, extending through the portions of Lee and Wise Counties in Virginia, and those of Knox, Harlan, Letcher and Pike Counties in Kentucky, situated upon the slopes of the Cumberland Mountains. It is estimated that fully 1,000 people have died of the disorder.

The water through all this district had been extremely low, the streams and springs on the mountain sides being nearly dried up. The little water which could be had, and which the inhabitants have been forced to drink, has been very strongly impregnated with mineral substances, and perhaps also with decaying vegetation. As yet there has been no accurate analysis of it. The malady, as manifesting itself, was accompanied by intense thirst, by griping pains in the abdomen, and frequent profuse discharges from the bowels. In many instances those attacked have died in a few hours, but the usual course has been about two days, and the termination is generally a fatal one.

It is probable that the usual rains of this season of the year put an end to the trouble, but further and more accurate details will be awaited with interest.

Cannot some of the subscribers in Kentucky or Virginia place the essential facts on record in this JOURNAL?

A NEW NATIONAL BOARD OF HEALTH.—A genuine surprise has been given to the members of the National Board of Health by the action of the Conference of State Boards, which met in Washington in December. It was confidently expected by the National Board that it would be endorsed by the conference, the members of which were regarded as special friends of the Board. Instead of doing this the conference took steps to wipe out of existence the present Board and substitute for it another and entirely different Body. By a practically unanimous decision the conference agreed to recommend to Congress the passage of a law providing for a National Board of Health, to consist of one member from each State Board of Health in the country, to be approved by the State Board and appointed by the President. A bill to this effect has been prepared and will be introduced in the House of Representatives very soon. It will provide that the new Board shall hold regular meetings once a year, at which it may prepare regulations, which shall be approved by the President before going into effect. Having the earnest support of the men with whom it originated, it is believed that the bill will stand an excellent chance of becoming a law. The present National Board of Health has, in some way or other, become somewhat unpopular, and it has repeatedly failed to secure large appropriations asked for from Congress, members of which Body have impatiently characterized it as an excrescence. The new bill has been carefully examined, and is a good one.

MEDICAL EXPERTS IN COURT.—On the evening of December 11th, the Society of Medical Jurisprudence of this city held a very interesting session. The Hon. Amos G. Hull, the present vice-president, read a valuable paper on "Medical Experts in Court." He said:

"A clamor has been raised against all kinds of expert testimony. It reaches lawyers, juries, and more or less the Bench. It affects the administration of justice. The cry is to the effect that expert testimony is unreliable, purchasable and corrupt. Is there any just reason for this charge? There never was a time within human history when medical science stood as high as it does to-day, more especially the branches relating to toxicology, surgery, mental alienation and insanity. I answer that there is a cause for complaint. It arises from causes in which members of the legal as well as medical profession are at fault. Members of the Bar in conspicuous cases have placed unscrupulous medical men on the stand as experts. They have used them as detectives, and every one ought to understand the difference between an expert and a detective. The experts should be present in the interest of science; the detectives are for vastly different purposes. Medical men on the stand have failed to show that candor, impartiality, frankness, truthfulness, learning and ability which the Public have a right to expect. Many a poor fellow has lost his reputation, property and even liberty by the unskilled and sometimes purchased opinion of an expert."

The paper was freely discussed by distinguished lawyers and physicians.

CREMATION.—Justly appreciating the dangerous facilities which cremation, as at present advocated and to some extent practised, presents for the escape of individuals who deprive their victims of life by means of poison, or through so-called "misadventure," Mr. Thomas Bayley, consulting chemist of Birmingham, England, proposes to keep the bodies for a certain time after death and treat them in such a manner as to avoid putrefaction. According to Mr. Bayley's method, the bodies would be loosely but completely enveloped in cotton wool, within cases which would be riveted up. They would then be exposed in underground galleries lined with impervious cement to a current of cold and dry air, from which the germs of putrefaction would be removed by filtration. The cooling would be effected by machinery worked on the compressed air principle, and the air traversing the chambers would be dried by any suitable chemical agents. At first thorough cooling would be necessary, but after a time the drying could be effected more rapidly at a higher temperature. The process would result in the formation of mummies, with white integument similar to those produced by the most efficient and costly system of embalming in ancient Egypt. Attached to each "dehydratorium" there might be mortuary chambers for bodies awaiting inquest. After treatment the bodies might be cremated, or kept for an indefinite period in a dry place or in air-tight cases.

GRATITUDE OF A MEDICAL COLLEGE.—The College of Physicians and Surgeons of this city has certainly very fully manifested its gratitude to Mr. W. H. Vanderbilt for his gift of $500,000. Papers of thanks have been sent by the President of the Faculty; by the Board of Trustees; by the Faculty; by the Alumni Association; and, finally, by the class of students in attendance upon lectures.

The statement, made by Dr. Dalton, that such a gift is especially valuable, because, coming from a private citizen, it differs from the custom in Europe of having such gifts emanate chiefly from Government or from royalty, is erroneous. Many of the best colleges in Europe are attached to hospitals built and endowed by private citizens. It was a gift, however, princely in amount, if not in origin, and the munificent and liberal capitalist will find that never before, unless in Tennessee, has he made so praiseworthy a use of his money. It is indeed a charity which blesses him that gives as well as all that receive, and not only in the present, but for all time.

Hospital Sunday and Saturday in London have become the foundations of a gigantic charity; its results are magnificent and will be almost immeasurable.

Fifteen hundred churches take up a special collection. There are special fairs at the public gardens, with the Prince of Wales as treasurer. At every railroad station and place of prominence somebody distinguished in society presides with an offering box; there were 1,400 on the last occasion. Theatres give special performances. Young ladies with special badges and offering boxes take up collections in the open streets. Monster concerts are given at popular prices, the musicians offering their services. Torchlight processions take up night collections, etc.

Such charity is really beyond commendation. It makes humanity divine.

Hospitals will be largely increased in size and numbers, every bed will be endowed. The sick-poor will be treated and healed without money and without price.

The late collections in this city did not represent a tithe of such enterprise and energy.

Congressional Miryachit.—*The Globe* for the Thirty-seventh Congress contains the same speech printed twice, and purporting to have been delivered by two members of the House. It came about in this way: A certain member of Congress contracted with a member of the literary lobby for a speech on the tariff. The price to be paid was $75. When the speech was turned over to the statesman, he accepted it as satisfactory, but refused to pay more than $50. He gave his literary friend that amount and took the speech away, little dreaming that the author had kept a copy. But the enterprising member of the literary lobby sold his copy for $50 to another statesman, who obtained leave to print it April 24, while statesman No. 1 obtained leave to print May 26. The speech made its appearance in the appendix, where it appears in two places, word for word.

These men are as seriously stricken with miryachit as any of the medical editors.

New York Sanitation Under the Present Board of Health.—Frederick N. Owen, chief of the tenement house inspectors, read before the Tenement commission recently a report giving the result of an inspection of 968 tenements, containing 8,811 families, composed of 37,114 persons. Twenty-one per cent. of the air shafts were found to be worse than useless, as they sucked up bad air from the cellars. Ninety-nine in every hundred vaults are leaking cesspools. *One in every seven tenements has a broken drain under the cellar floor. Soil pipes are everywhere leaking and out of order. The plumbing of* 329 *tenements should be immediately looked after.*

Out of 964 tenements inspected the plumbing of 20 was "good," the plumbing of 566 "fair," and the plumbing of 378 "bad." More than fifty per cent. of the houses inspected had plumbing with open joints, where the plumbers were too ill paid or too lazy to properly seal them.

THE ITALIAN DIVORCE BILL.—The Divorce bill brought before Parliament by the Italian Ministry seems little short of a proposal to revolutionize marriage. It provides that when a man and wife have separated for a period of three years — provided they have no children, or for five years provided they have children — the aggrieved party can obtain a divorce. This is simply an abolition of permanent marriage, and gives to either husband or wife only a temporary interest in the marriage relation.

Of course the bill is ostensibly designed to afford relief to a wife or husband, as the case may be, who has been deserted. In practice, however, the law would permit the voluntary separation and subsequent divorce of all married people.

ADVICE TO DOCTORS.—The Harrison divorce case has moved the *Lancet* to take up its parable on the relation of medical men to their female patients. Will the Faculty take heed to the warnings of their mentor? The *Lancet* would prohibit personal or social intimacy, and it declares that "no familiarity whatever, of any kind or degree, ought to exist." There should be no gossiping, less handshaking, more formality and a considerable reduction in the habitual length of visits.

The *Lancet* plainly intimates that the doctors are in fault, and ought at once to mend their ways. At present a lady's doctor, it says, is much like an abbé under the old régime in France.

This is libelous.

ARTIFICIAL IMPREGNATION.—This subject has been discussed, and has its advocates. The *Gazette Hebdomadaire de Médecine et de Chirurgie* views at length a new novel with the suggestive title of "Le Faiseur d'Hommes." The romance is nothing more nor less than a plea in favor of artificial impregnation; the *dramatis personœ* are a childless count and countess and a highly scientific physician. A certain abbé is also introduced, in order to fill out the religious side of the picture. Not to enter into the details of the subject, which are better suited for a treatise on gynæcology than for a popular novel, it suffices to say that the experiment is successful, the result being a son, who is afterward known at court as the "child of the syringe."

He should have been called "a son of a gun."

CAMPI'S SKIN TO BE TANNED.—Every one remembers Carlyle's remark, quoted in "Dr. Claudius," that the French nobles laughed at Rousseau's theories, but that their skins went to bind the second edition of his book. This incident of the tannery of human skins at Meudon has lately been outdone in grimness, if not in historical interest, by an official of the School of Medicine at Paris. The dead bodies of murderers, it is well known, are in France given over to the School of Medicine for dissecting purposes. The official in question—so the French papers say—has in turn handed over the skin of Campi, who was executed some time ago, to a tanner, with instructions that it should be tanned, and afterwards used to bind the documents relating to the murderer's post-mortem.

Is the Electric Light a Sacrilege?—"Michael Cahill, M.D.," of No. 356 Third avenue, New York, who has amused every one with various protests on the subject of electricity, filed an affidavit with the District Attorney. He renewed his argument that the lightning flash is God. The electric light is the same as the lightning flash, and consequently the electric light is the Deity. On this theory he objects to electric light companies as employing a divine agency to light concert gardens and theatres, and asked the influence of the Government to prevent the formation of such companies. "The experts" will soon report in regard to his condition.

Portable Antiseptics.—Professor Lister has recently recommended, as a portable antiseptic, a saturated solution of corrosive sublimate in glycerine, a fluid drachm of this solution being sufficient to convert about four pints of water into a one-in-a-hundred solution. A more convenient way of carrying corrosive sublimate is to have it made up into powders, each containing seven grains of the sublimate and an equal quantity of ammonium chloride. One of these powders dissolved in a pint of water forms a solution of the strength of about one in a thousand. The ammonium salt is added on account of its property of rendering the sublimate more soluble.

Cholera Boxed Up.—It is said that two doctors of Marseilles fancy that they have succeeded in discovering the morbid agent of Asiatic cholera, which, according to their statement, is a "mucor" entirely distinct from the "comma" of Dr. Koch. Considerable amusement was created at the Academy when the perpetual secretary, Professor Béclard, exhibited the sealed box which contained preparations and specimens of the offending "microbe." Amid a general burst of laughter, the president was requested "to keep the box sealed." Thus does the spirit of comedy invade the ground of tragedy even in the most serious of human affairs.

Law and Medicine.—Here is a very fair illustration of the kind of support that the Profession of Law gives to Medicine:

> THE SUPREME BENCH.
>
> Atlanta, Sept. 23, 1884.—From experience I think S. S. S. a very valuable remedy for cutaneous cases, and at the same time an invigorating tonic.
>
> James Jackson, Chief Justice of Georgia.

If the Bench acts thus, what can be expected from the Bar?

Cholera in Naples.—Now that the cholera has done its work, the Italian Government proposes to spend $20,000,000 upon sanitary improvements in the city of Naples. More than this sum was lost in foreign trade alone, while the plague prevailed, and the additional loss in internal and local business, caused by an exodus of citizens and the paralysis of industries and trades, so greatly exceeded these figures, that no one has had the courage to estimate it.

If Naples had been clean, millions of dollars and thousands of lives would have been saved.

A NEW WAY TO OBTAIN LITERATURE.—This scrap from a modern society drawing-room is worth preserving. The young wife of a physician exclaimed to a female friend, "Oh my! I do wish that I could get something more to read; I have read all the books and journals in my husband's book-case, and now I do not know what to do." Her society friend remarked, "why, my dear, your case is a very easy one: you must get another husband."

THE NEW YORK SOCIETY OF GERMAN PHYSICIANS.—"In future, no personal notifications of the meetings of the Society of German Physicians will be sent out. The meetings will continue to be held on the fourth Friday of each month, July and August excepted, at the residence of Dr. A. Jacobi, 110 West Thirty-fourth street. Every German physician of good standing is invited to attend."

A NEW SUCKER.—One result of the sad death of Dr. Rabbette has been the invention of several forms of apparatus for sucking secretions from the tracheal wound. One of the simplest of these is made on the principle of a dry-cup with a rubber ball. Every doctor should carry one always; of course.

MR. HERBERT SPENCER'S FAMOUS "FORMULA OF EVOLUTION" is as follows: "Evolution is a change from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity, through continuous differentiations and integrations."

MADAME, MY LADY AND MEIN FRAU.—Since 1832 the average annual increase from births in every 10,000 of the population has been as follows: in France, 26; in England, 101; in Germany, 115.

THE LONELIEST DOCTOR.—The *Medical Record* says that the loneliest doctor in the world is the ophthalmologist who hasn't written an article on cocoaine.

THIS NUMBER OF THE JOURNAL is made up to January 1st, 1885, and, as a December JOURNAL, contains the current facts and news of that month.

ENVELOPES INSTEAD OF WRAPPERS will be used hereafter in mailing this JOURNAL; it will thus reach the subscribers without injury in the mail, and will, it is hoped, be far more welcomed. In accordance with the custom of almost all of the better periodicals, there will be stated on every envelope or wrapper the date to which the subscriber has paid. This will be done in lieu of sending receipts, and all who are deterred from sending on their subscription dues because of ignorance as to the condition of their accounts will thus be relieved of a very disagreeable suspense. Any such wrapper or envelope is a legal receipt, and subscribers will thus be saved the annoyance of keeping their receipts and of referring to them for guidance.

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